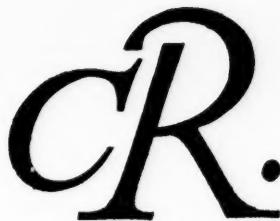


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IN DEFENSE OF THE IVORY TOWER

Erwin Panofsky

THREE YEARS AGO the Dean of the Princeton Graduate School, Sir Hugh Stott Taylor, asked me to participate in a conference devoted to the theme "The Trained Mind in a Democratic Society," suggesting as a subject "The Social Responsibilities of the Artist and Critic." Appreciative though I was of this honor, I was reluctant to accept it; I hesitated to admit the implication that, while the practical man—the doctor, the lawyer, the engineer, or the stockbroker—is all right as long as he does his job as best he can, obeys the law of the land, and practices as many public and private virtues as his religion or conscience demands, the man who devotes his life to a less obviously useful pursuit owes, as it were, an extra debt to society: a kind of moral surtax to atone for the fact that he is *not* a practical man. To this objection Dean Taylor replied: "Why don't you say just that?" Thus I proposed—deliberately extending the meaning of the terms "artist" and "critic" so as to comprise all those who make it their sole business to exercise the complementary faculties of "artistic" imagination and "critical" judgment, be they artists or critics in the professional sense, philosophers or mathematicians, scientists or scholars—to make a small speech in defense of that "ivory tower" which they are all presumed to inhabit.

This little speech was published in the *Report of the Third Conference Held at the Graduate College of Princeton University on January 1-3, 1953*.¹ But when *The Centennial Review of Arts & Science* expressed its wish to reprint it, I

¹ The Association of Princeton Graduate Alumni, III (1953), 77-84. The present revised version is published with the kind permission of the Secretary of the Association.

was all the more willing to comply, as this proposal gives me an opportunity to make certain revisions which had occurred—or rather, been suggested—to me in the meantime.² I am most grateful to the Secretary of the Association of Princeton Graduate Alumni, Professor Hubert Alyea, for his kindness in authorizing the present republication but wish to repeat that the responsibility for its contents remains exclusively mine.

I

The phrase "He lives in an ivory tower" has come to be in the United States of America about the most insulting remark that can be passed without leading to an action for slander or libel. It combines the stigma of egotistical self-isolation (on account of the tower) with that of snobbery (on account of the ivory) and dreamy inefficiency (on account of both). In recent journalistic usage the "ivory tower" can even designate not only the place where the impractical artist, writer, or professor is supposed to live but also—perhaps by way of confusion with the "castle in the air"—the futile ideas or pipe dreams which he is supposed to think up. "This naive statement," you could read during the last presidential campaign, "must be relegated to the realm of ivory towers."

Strangely enough, this figure of speech exists as an idiom only in English and French but not in Italian, Dutch, Span-

² I am particularly indebted to Professor Hans Marchand for having called my attention (*in litteris*) to the fact that Charles-Augustin Sainte-Beuve, the first to use the simile of the ivory tower in the now current sense, had a great admiration for Milton's *Il Penseroso* (*Causeries du Lundi*, I, 303). In view of this I am now convinced that Sainte-Beuve was influenced by Milton's poem as well as by the passage in the *Song of Songs* and—as I still believe—by Horace's reference to the "bronze tower" of Danaë. In an illuminating article, "The Ivory Gate," *Yale French Studies*, XIII (1954), pp. 17-29, Harry Levin has suggested, with reference to Sainte-Beuve's *Volupté*, that the simile may have its origin in Virgil's "ivory gate" (*Aeneid* VI, 893-896), which, needless to say, has made an indelible impression on subsequent literature. It seems to me, however, that while this famous passage might have suggested the "ivory," it could not have suggested the "tower"; and since these two motifs are already coupled in the *Song of Songs*, the Virgilian influence would not seem to be indispensable in this particular case.

ish, or any of the Scandinavian languages. In Germany it achieved some popularity only after 1945 when it was imported, characteristically, by refugees from Hitler who had returned from the United States after the end of the war. I have been told, specifically, that one of these repatriated expatriates, the Lord Mayor of the City of Hamburg, admonished the professors of Hamburg University to relinquish their *Elfenbeintürme* and wake up to the facts of life.

What, then, do we know about the origin and the history of this simile? The story begins, it seems, as late as 1837 with Charles-Augustin Sainte-Beuve. In his *Pensées d'Août*, he contrasts Victor Hugo, the "hardy partisan" who upholds the banner of his political creed in battle, with the "more reserved" Alfred de Vigny who, though sharing Hugo's convictions, "withdraws before noon as though into his ivory tower" ("et Vigny, plus secret / Comme en sa tour d'ivoire avant midi retrait").

Here the ivory tower first appears as the symbol of a mind withdrawing from active life into a state of intellectual seclusion and mildly reproved (as another poet was to put it some fifty years later) for "enclosing itself in selfish bliss." I say "mildly reproved" because the disapprobation was originally tempered with respect. Often the emphasis was placed on bliss, and not on selfishness at all. Wilfred Rowland Childe, for example, could write (not very felicitously):

A tower of ivory it is
Beside a shoreless sea;
I look out of my lattices,
And the saints appear to me.

And Henry James, characteristically transforming the figure of speech into a tangible and precious *objet d'art*, invested this *objet d'art* with an intricate and slightly ironical but fundamentally positive symbolism. His last, unfinished novel owes its title to an actual ivory tower of diminutive size—a

wondrously complex circular cabinet of priceless oriental workmanship, containing many hidden drawers and concealing in one of them a letter, the mystery of which is endlessly discussed but never disclosed although two of the characters have a perfect right to take the letter out and read it. This ivory tower gives rise to speculations such as these: "Doesn't living in an ivory tower just mean the most distinguished retirement?" or: "Does she [the heroine] then *keep* ivory towers, a choice assortment in the sense of having a row of them, ready for occupation and with tenants to match, perchable in each and signaling along the line from summit to summit?"

II

Seen against this background, the American aversion to ivory towers may be accounted for by a deep-seated antipathy not only against intellectual detachment but also against oversophistication. What makes the practical man so indignant is not only that the impractical man shuts himself away in a tower. The solitary thinker, observed from the outside, has always been an object of amusement (from Aristophanes' "Phrontisterion" down to the beautiful vision of a New York hostess who once asked me: "Is it true that you professors in the Institute have thinking chambers?") but not of unconditional condemnation. What seems so outrageous is the fact that his tower consists of so costly, aristocratic, and at the same time inappropriate a material as ivory.

However, precisely this notion—the notion that the tower of the intellectual recluse is built of what Henry James calls "that rare substance"—is based upon a curious misconception. When Sainte-Beuve, the originator of it all, reproached Alfred de Vigny for withdrawing into his *tour d'ivoire*, he fused, and in part confused, no fewer than three entirely different motifs.

From a purely verbal point of view, the phrase *tour*

d'ivoire, "tower of ivory," is a direct quotation from the one and only source where it occurs before Sainte-Beuve: the *Song of Songs*, Chapter 7, versicle 4. Here the bridegroom says to the bride: "Thy neck is like a tower of ivory" ("Collum tuum sicut turris eburnea"). (Wilfred Rowland Childe, incidentally, explicitly endorses this derivation by borrowing the title of his poem from the Vulgate itself: he calls it *Turris Eburnea*.) In significance, however, there is a world of difference between the way in which the simile is employed in the *Song of Songs* and in Sainte-Beuve's *Pensées d'Août*.

First of all, Sainte-Beuve has transferred the quality of ivoriness from the object of comparison to the medium of comparison. In the erotic imagery of the *Song of Songs* the neck of the lady beloved is likened to a tower because the tower is slender, round, and straight; the tower, on the other hand, is said to be of ivory because the neck of the lady beloved is cool and smooth and bright in color. The tower is no more thought of as being made of ivory than the neck of the lady is thought of as being a hundred feet high and thirty feet wide; in fact, the bridegroom merely returns a more literal compliment made to himself by the bride in Chapter 5, versicle 14: "Thy belly is as bright as ivory overlaid with sapphires."

Second, and more important, the tower evoked in the *Song of Songs* has nothing whatever to do with the idea of withdrawal, isolation, or seclusion with which it was invested by Sainte-Beuve; it is, as will be seen, identical with the "tower of David," erected for military purposes, and not at all a place of self-centered contemplation.

This connotation of the tower belongs to an entirely different literary tradition—a tradition which has found its noblest expression in Milton's dialogue between the *Allegro*, the cheerful extrovert, and the *Penseroso*, the votary of solitary meditation:

Or let my lamp at midnight hour
Be seen in some high lonely tower
Where I may oft outwatch the Bear.

Sainte-Beuve, as I have learned from Professor Hans Mar-chand, had a profound admiration for Milton's dialogue, which he calls, in his *Causeries du Lundi*, "the masterpiece of meditative poetry" ("le chef-d'oeuvre du poème méditatif"). No doubt it was in recollection of Milton's *Pensero-so* that he reinterpreted a bold oriental image of physical beauty into a symbol of spiritual isolation. But why did he retain the Biblical tower, which is of ivory but has nothing to do with contemplative withdrawal, when he was thinking of the Miltonian tower, which does signify contemplative withdrawal but has nothing to do with ivory and is described as an ordinary, if romantic, piece of architecture, permitting the lamp of the solitary thinker to "be seen at midnight hour"?

That Sainte-Beuve could fuse these two heterogeneous images into one is due, I believe, not only to the fact that he liked the feel of ivory (and the sound of the word *ivoire*) but also, and perhaps more so, to the intrusion of a third concept which could operate, as it were, as a common denominator between the Bible and Milton: the concept of still another tower which, like that in *Il Pensero-so*, did carry the connotation of withdrawal, isolation, or seclusion (though not exactly of a contemplative kind) but, like the tower in the *Song of Songs*, consisted of a precious and unusual material (though not exactly of ivory). This third tower—no less familiar than that in the *Song of Songs* and very much more familiar than Milton's—is that to which Danaë, the daughter of Acrisius of Argos and mother-to-be of Perseus, had been confined by her father in an effort to protect her from any defiling contact (so that her tower was to become, in Christian iconography, a symbol of chastity³ and even an attribute

³ Those who like to account for misconceptions by a "subconscious collective memory" rather than sheer ignorance may suspect that the amorous implications of Danaë's "tower of chastity" survive in a modern love song

of the Virgin Mary). This "tower of Danaë" was, as I have intimated, not made of ivory; it was, however, not an ordinary stone structure either. It consisted of bronze; and the very line in which this is said—a famous and ear-filling line from Horace, *Carmina* III, 16—is dangerously reminiscent of the celebrated versicle in the *Song of Songs*: "Inclusam Danaën turris aënea." It is, I believe, chiefly this fatal assonance between the Horatian *turris aënea*, with all its overtones of isolation and seclusion, and the Biblical *turris eburnea*, so alluring from a poetic and phonetic point of view, which induced Sainte-Beuve to send De Vigny into a *tour d'ivoire*.

III

Be that as it may: whatever its material, a tower is a tower is a tower; and he who, by choice or destiny, happens to reside in one should stop to consider what this means.

A tower, that much must be admitted, prevents its occupant from being as active as those who live outside. But when he is challenged or tempted to get out of it, he should remember the story of the Judgment of Paris. The ancients interpreted this story as a symbolical expression of the fact that there is not one way of life but three: the active life represented by Juno; the life of pleasure represented by Venus; and the contemplative life represented by Minerva. And they thought that Paris, who awarded the prize to Venus, would have done better to give it to Juno or, better still, to Minerva.

kindly brought to my attention by Professor Herbert Weisinger (Jack Fulton-Lois Steele, "Ivory Tower," performed by Otis Williams and his Charms, De Luxe 45 R.P.M. Records 45-6093; copyright by Melrose Music Corporation; quoted by permission):

Come down, come down from your ivory tower,
Let love come into your heart.
Come down from your ivory tower,
Don't keep us so far apart.

Come down, come down from your ivory tower,
You'll find true love has its charms.
It's cold, so cold in your ivory tower,
And warm, so warm in my arms.

There is no reason to accept this hierarchy of values merely because it has been endorsed by almost two millennia of human thought. But neither is there any reason to reverse it without inquiry because it has gone out of fashion recently; and it certainly does not make sense to demand of Minerva that she cease to be what she is in an attempt to become what she is not: she simply would not be a success in the roles of either the good housewife or the great courtesan.

The tower dwellers, then—whether occupying their towers singly or in the company of friends and helpers, masters and apprentices—may just as well be content to stay where they are and to exercise whatever powers of observation, thought, and imagination God has chosen to bestow upon them; to perfect their techniques of work and communication; and, if occasion offers, to “signal along the line from summit to summit.” In so doing they will automatically contribute to the making of our world (“No one can prevent mathematics from being occasionally applied,” said a good friend of mine), and perhaps more effectively than by climbing down and worshiping projects. Only in being shaped by a mind does that welter of processes which constitutes the *vita activa* and the *vita voluptaria* transform itself into reality; and it is a memorable fact that only the English language—the language of two peoples held to favor a positivistic rather than idealistic attitude—has recognized this by employing the verb “to realize” both in the sense of “to make real” and “to become conscious of.” Booth Tarkington (whom no one can accuse of being out of sympathy with the American businessman and industrialist) makes a depression-stricken man of action say: “What you call impoverishment gives me time for meditation; and how does anybody get at realities without it? We don’t know at all what we’re doing so long as we live busily in action, or emotion, or by stimulants from our five senses.” And some of us remember only too well how in 1933 nearly all the practical men, among them persons of exceptional intelligence and

international reputation, maintained that Hitler could not last for more than half a year or so "for purely financial reasons." Practical men have little time to think about the difference between a symbol and the thing symbolized; today they urge us to deposit our securities in caves in the Adirondacks as a protection against thermonuclear bombs, regardless of the fact that in the event of a thermonuclear war the things symbolized by these securities (not to mention ourselves) will be reduced to strongly ionized atoms.

IV

In speaking of "observation" as well as "thought" and "imagination," I have alluded to another property of the tower. It is not only a place of seclusion (or, if you will, of escape) but also a lookout: it is, as Milton himself did not fail to stress, not only "lonely" but also "high." Height, needless to say, widens the horizon of the observer and thus enables him to see things in a perspective rather different from that in which they present themselves when swirling around him on ground level.

Casting his glance into the past, the tower dweller—slightly disturbed by the recurrent reports of flying saucers—may take comfort in opening the diary of Samuel Pepys under the date of May 21, 1668. On the previous Saturday (May 16) "a meteor or some fire" had been observed in the sky of London. Pepys himself had seen only "a light before him come from behind him" and "thought no more of it." But everybody else did think and talk about the strange phenomenon. No one, of course, knew what it was; but all were sure that it portended the danger of "the rest of the city being burned and the Papists to cut our throat." Still farther back the tower dweller may be amused to observe, with an elusive feeling of recognition, the Emperor Constantine Copronymus ("he whose name is dung"), the great iconoclast and enemy of monasticism in eighth-century Byzantium (741-

775). After having destroyed as many sacred images and killed as many monks as he could lay his hands on, he exacted a loyalty oath from all his subjects: they had to swear that they did not and would not venerate images; that they did not and would not associate with monks; and that, should they encounter one, they would not fail to assault him with words as well as stones. The first to take this oath was, naturally, the Patriarch of Constantinople, who had been a monk for years.

While such glances into the past are apt to fill the soul of the tower dweller with that equanimity which is, or should be, the heritage of humanism, the aspect of the present and the prospect into the future will have a different effect on him: they will arouse his emotions—self-centered delight or disgust, disinterested sympathy or terror. Let us listen to the song of Lynceus, the lynx-eyed hero of Greek mythology whom Goethe's genius confined to a tower instead of permitting him to hunt, to fight, and to die in combat:

Begotten to see,
Appointed for sight,
Assigned to the tower,
In the world I delight.
I look on the distance,
I see what is near,
The moon and the stars,
The woods and the deer.
In all this a beauty
Eternal I see;
Taking pleasure therein,
I take pleasure in me.
Oh fortunate eyes,
Whate'er you have seen,
For better, for worse—
How fair it has been.

However, after this moment of "selfish bliss"—and after an ominous pause explicitly prescribed by the poet—the watcher realizes that he "has not been placed so high solely in order

to enjoy." He sees with horror (and the German word for "horror," *Entsetzen*, rhymes with the German word for "to enjoy," *sich ergetzen*) that the cottage of Philemon and Baucis is on fire; he sees the "flaming flames" devour not only their humble dwelling but also the nearby chapel and linden trees; and he can do nothing but raise his voice in alarm and lament. It is left to Faust, the man of action, to envisage a belvedere to be erected on the site of the annihilated grove and a "new shelter to enclose the aged pair." But—and this is the point—his fate overtakes him before these plans materialize.

V

In these few lines Goethe has summed up the tragedies both of the man on the ground and the man on the tower. The man on the ground has the power to act; but he has not the power to see, nor can he escape from the net which destiny and his own previous deeds have woven around him. The man on the tower has the power to see but not the power to act; the only thing he can do is to warn. And here we touch upon what amounts to a kind of "social responsibility" after all—a responsibility which devolves upon the tower dweller not in spite but because of the fact that he dwells in a tower. The tower of seclusion, the tower of "selfish bliss," the tower of meditation, the tower of equanimity—this tower is also a watchtower. Whenever the occupant perceives a danger to life or liberty, he has the opportunity, even the duty, not only to "signal along the line from summit to summit" but also to yell, on the slim chance of being heard, to those on the ground.

Socrates, Erasmus of Rotterdam, Sebastian Castellio, Voltaire, Zola, Theodor Mommsen, the seven professors of Göttingen, Albert Einstein—all tower dwellers if there ever were any—have raised their voices when they felt that there was danger to liberty. And though these voices were often

ignored or even silenced at the time, they continue to ring in the ears of posterity.

In conclusion, let us return once more to the *Song of Songs* in order to find out what the so-called ivory tower really was. It is not only in the fourth versicle of the seventh chapter but also in the fourth versicle of the fourth chapter that the neck of the bride is likened to a tower. But in this second passage there is no transference of attributes; here the tower is not referred to as a tower of ivory but is described as what it is, a structure even more formidable than a mere watchtower: "Thy neck is like the tower of David, builded for an armoury, whereon there hang a thousand bucklers, all shields of mighty men." It is for the mighty men to get the shields and use them in battle. The watchman can only sound the alarm. But in order to do at least that much, it is for him to stick to his tower.

THE NATURE OF BIOGRAPHY

John A. Garraty

I

BIOGRAPHY, to begin with a very simple definition, is the record of a life. It is thus a branch of history, a small segment of a bigger pattern, just as the story of the development of a town, a state, or a nation may be thought of as an element in a larger whole. The word "biography" has often been used loosely. Marquis James has called his history of a great insurance company *The Biography of a Business*. George Gamow has written a *Biography of the Earth* from the time it "was born from the Sun, its mother, as the result of a brief but violent encounter with a passing star" to its "violent thermal death in the far-distant future." Others have written "biographies" of buildings, books, even of ideas. But such works are biographies only by analogy, and perhaps the simplest accurate definition of biography should read: "the story of a human life."

Since all biographies must say something of the times in which their subjects lived, the form is tied even more closely to history. There have been great variations in the amount of this "background material" in biography. At one extreme, for instance, are the "psychographs" of Gamaliel Bradford, in which the protagonists float like disembodied spirits in a vacuum. At the other pole is such a massive, multi-volumed "life and times" as Douglas Southall Freeman's *George Washington*. In any life the author must of sheer necessity provide a certain amount of "background" if his hero is to be made intelligible to the reader. But how important and how con-

scious and conspicuous a role ought "history" to play in a biography?

Some writers have gone so far as to argue that individual men are significant only because the times in which they live make them so. A sociologist, Joseph Schneider, after an elaborate study of the lives of English botanists from 1700 to the present, concluded that certain periods of history had proved favorable to the development of many plant specialists, whereas in other times (in the early 19th century, for example) few important ones had appeared. "It is the cultural situation which produces famous men," he concluded. V. F. Calverton, writing in the 1920's, also denied the importance of the individual. "The idea of looking upon greatness as a mystery or an accident is . . . absurd," Calverton wrote in *The Newer Spirit*; the "peculiar manifestations" of "circumstances" provided the opportunity which "made it possible for certain men to become great." Shakespeare, according to Calverton, was great only because he "came in contact with those stimuli . . . that, reacting on his nature, could but inevitably make him the man and author he was," while a proper study of George Washington would show "not how Washington rose above conditions to success, but how conditions . . . rode him to success." In the same vein, Stephen Vincent Benét once wrote a short story, "The Curfew Tolls," describing what a nonentity Napoleon would have been if he had been born a few years before his time and thus too old for the role he actually played in the denouement of the French Revolution.

Even a "great man" like Goethe spoke of the individual as a reflection of the times, intimating that any man born a decade earlier or later than in fact he was, would "become quite a different being." And Professor Edward P. Cheyney, in his presidential address to the American Historical Association in 1923, without denying to man a limited freedom of action, concluded that every person "is controlled at every

turn by the natural laws of the world in which he dwells."

But other writers have insisted that forceful individuals can often change the trend of events. Thomas Carlyle, of course, carried this theory to its logical extreme. Carlyle was a "hero worshipper"; he insisted that history was no more than the sum of innumerable biographies. The biographer Sidney Lee emphasized "those aspects of men's lives which affect the movements of the crowd." And William Roscoe Thayer urged his fellow historians to "try to discover how the human will—that force more mysterious than electricity—shapes and directs the deeds of men."

A third group has argued that neither the man nor the times in which he lives really controls what happens in history. "In the queer mess of human destiny," wrote one of Washington's biographers, "the determining factor is Luck. For every important place in life there are many men of fairly equal capacities. Among them Luck decides who shall accomplish the great work . . . and who shall fall back into obscurity and silence." Oscar Handlin wrote an entire book, *Chance or Destiny?*, in which he examined a series of critical events in American history and concluded that in each case the fate of the individuals concerned and of the nation as a whole was determined by pure chance. Whether this force be called luck, chance, or fate, those who stress it are in essential agreement that neither men nor great social forces control historical development.

It would be difficult to write a biography without having a definite opinion on the importance of the "hero" in history, and whatever one's theory, it must inevitably influence the kind of book one writes. The extreme position of Carlyle, though challenging, is certainly exaggerated. For history deals with societies as well as individuals, and any society is far more than the sum of its parts. Vast economic, social, and cultural forces, which obviously transcend the lives of individuals, are basic elements in history. And luck too plays a part.

But the biographer had better avoid any oversimplified theory of historical development. The individual makes history; so does chance; so do social forces. One need not look beyond his daily experience to observe the operation of all three elements. Each of us makes decisions that influence the lives of others; each is controlled and limited by the world we live in; each is affected by the caprice of fortune. It is the biographer's job to determine the relative importance of each factor throughout his subject's career. Thus Gilbert Chinard wrote in *Thomas Jefferson: The Apostle of Americanism*: "Jefferson . . . could have followed the line of least resistance and enjoyed the good things of life. . . . Such would have been Jefferson's destiny, had he been born in the Old World." In this way he illustrates the role of determinism and of chance in life. But Chinard added: "Had he been made of weaker stuff he would have become one of the fox-hunters, horse-racers and card-players of the Virginia gentry." Here the subject is seen overriding both fate and his environment. Taken as a whole, the passage shows that Chinard considered all the possibilities and arrived at his own judgment of their relative importance in a particular case. Whether one deals with small incidents or entire careers, the three major points of view should be always kept in mind—for they are all persistently operative.

But aside from this essentially philosophical question, the biographer must decide how to place his subject in his precise environment. Even the confirmed hero-worshipper must describe the world his protagonist is shaping.

David S. Muzzey put the problem well when he compared the individual to the waist of an hour-glass, standing "at the apex of a pyramid whose base broadens downward through descendants and at the apex of a pyramid whose base broadens upward through ancestors." In Muzzey's image every historically significant man is "focal," gathering the experience of the past into himself and sending forth "widening rays of

influence" into the future. "The task of the biographer," he concluded, is "to calculate the resultant of the forces" furnished by the personality of the subject and "the problems of the times in which he lived."

In his own biographical work, Muzsey never applied this idea fully. But the English scientist Angus Armitage did so in his life of Copernicus, *Sun, Stand Thou Still*. Armitage was handicapped in writing a biography of Copernicus, for almost nothing is known of the great astronomer's personal life. He overcame this difficulty by stressing the development of the science of astronomy and Copernicus's contributions to it. His book has three parts, corresponding to the waist and the two pyramids of Muzsey's hourglass. "Astronomy before Copernicus" traces the history of man's knowledge of the stars down to the last quarter of the 15th century; "The Man and his Work" explains the subject's contributions, and details the limited knowledge of his life which has survived; and "The Triumph of the Copernican Theory" describes the "widening rays of influence" (to use Muzsey's term) of Copernicus on the later development of astronomy.

II

The biographer, however, must deal not only with the facts of his subject's career, with what he did, why he did it, and how he influenced his times and was in turn affected by them. He must also describe the man himself—his personality and character, his individuality. This aspect of biography is of fundamental importance; indeed it explains the enduring popularity of the biographical form. For people are interested primarily in people. They have never had to be convinced that "the proper study of mankind is man." And the convincing description of personality involves problems distinct from the accurate description of facts. It is this which makes the writing of biography a technique apart from that of history.

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But aside from this essentially philosophical question, the biographer must decide how to place his subject in his precise environment. Even the confirmed hero-worshipper must describe the world his protagonist is shaping.

David S. Muzzey put the problem well when he compared the individual to the waist of an hour-glass, standing "at the apex of a pyramid whose base broadens downward through descendants and at the apex of a pyramid whose base broadens upward through ancestors." In Muzzey's image every historically significant man is "focal," gathering the experience of the past into himself and sending forth "widening rays of

influence" into the future. "The task of the biographer," he concluded, is "to calculate the resultant of the forces" furnished by the personality of the subject and "the problems of the times in which he lived."

In his own biographical work, Muzsey never applied this idea fully. But the English scientist Angus Armitage did so in his life of Copernicus, *Sun, Stand Thou Still*. Armitage was handicapped in writing a biography of Copernicus, for almost nothing is known of the great astronomer's personal life. He overcame this difficulty by stressing the development of the science of astronomy and Copernicus's contributions to it. His book has three parts, corresponding to the waist and the two pyramids of Muzsey's hourglass. "Astronomy before Copernicus" traces the history of man's knowledge of the stars down to the last quarter of the 15th century; "The Man and his Work" explains the subject's contributions, and details the limited knowledge of his life which has survived; and "The Triumph of the Copernican Theory" describes the "widening rays of influence" (to use Muzsey's term) of Copernicus on the later development of astronomy.

II

The biographer, however, must deal not only with the facts of his subject's career, with what he did, why he did it, and how he influenced his times and was in turn affected by them. He must also describe the man himself—his personality and character, his individuality. This aspect of biography is of fundamental importance; indeed it explains the enduring popularity of the biographical form. For people are interested primarily in people. They have never had to be convinced that "the proper study of mankind is man." And the convincing description of personality involves problems distinct from the accurate description of facts. It is this which makes the writing of biography a technique apart from that of history.

Biographical writing, therefore, concerns itself with two separate yet related tasks. This is not to say that the historical part of a biography is "scientific," or that the personal part is "artistic." A purely "scientific" biography can be deeply concerned with personality, as the examination of any psychiatrist's notebook would make clear, while who would deny the artistic merit of many of the great histories from Herodotus and Thucydides to Macaulay and Parkman?

Nevertheless it is true that the *portrayal* as distinct from the understanding of personality involves an extremely difficult problem which is chiefly artistic in nature. Allan Nevins, long both a champion and practitioner of the artistic expression of historical information, once said that the ability to describe character "is primarily a literary gift; it has little to do with erudite grubbing . . . in tons of manuscripts." Psychologists themselves have found this to be true. In a paper entitled "Personality: A Problem for Science or a Problem for Art?" Gordon W. Allport wrote: "It is true that the giants of literature make psychologists, who undertake to represent and to explain personality, seem ineffectual and sometimes a bit foolish in comparison. Only a pedant could prefer the dry collections of facts that psychology can offer regarding an individual mental life to the glorious and unforgettable portraits that the gifted novelist, dramatist, or biographer can give." Dr. Henry A. Murray, attempting to present the results of his exhaustive psychological study of fifty men of college age, was also made aware of the futility of all his work unless it could be effectively presented. He solved the dilemma by partially sacrificing science to art, frankly seeking to utilize the techniques of the novelists in the effort to make his characterizations "real." "A psychologist who believes that he can tell the truth without being 'literary' has only to try writing a case history or biography, and then compare what he has done to a character sketch by any novelist of the first order," Murray concluded.

The best novelists have excelled and indeed outdistanced nearly all biographers in describing personality, setting a standard almost impossible of attainment for writers of lives. Naturally, therefore, the novel has had great influence upon biography and has made the average biographer possibly more aware of the role of art in his field than the historian is in his.

The secret of the novelist's success lies in his unrestricted imagination. He may create what seems to be a very complicated character, but the character is never more complicated than the creator wishes to make it. He is never confronted with the need to select the typical from a maze of trivial or contradictory actions, nor is he bothered by the absence of evidence: his imagination can supply whatever detail his artistic sensibilities require.

The biographer, however, has at once more and less to draw upon. He has mountains of evidence from which to extract the essence of his subject. He has also the advantage of reality—he need not convince his readers that he is dealing with an actual person. And his imagination is constantly stimulated as each new fact falls into place. On the other hand, his "facts" do not always yield their meanings easily, and he must choose among them with discernment. Also, no matter how much evidence he has, he never has it all, and often lacks the most vital elements in the edifice he is trying to reconstruct. Yet he is bound by what he has. He can bring great artistry to the selection and interpretation of his evidence, but if he is to perform his proper function, the sources must be there, and all the relevant sources must be considered.

At the heart of the matter is the fact that in describing personality, the biographer is dealing with qualities that defy absolute analysis. Somerset Maugham was probably exaggerating the complexity and inconsistency of man when he wrote: "We know very little even of the persons we know most intimately; we do not know them enough to transfer

them to the pages of a book and make human beings of them." But it remains true that the picture of a personality can be no more than convincing. Absolute certainty in interpreting character is something that even the psychologist does not claim to achieve. As T. S. Eliot wrote in *The Confidential Clerk*:

There's always something one's ignorant of
About anyone, however well one knows them;
And that may be something of the greatest importance.

The infinite complexity of the mind of man gives the biographer a tremendous power, but it also burdens him with a great responsibility. When he describes a personality, no one can be certain that he is right, but it is almost equally difficult to prove that he is wrong. If he says that his hero wrote a particular letter or was at a certain place at a specific time, his accuracy can be checked. But when he says that his hero was shy, or selfish, or self-satisfied, he is dealing, essentially, with matters of opinion. The average man is so contradictory and complicated that by selecting evidence carefully, a biographer can "prove" that his subject is almost anything. "A little reflection," a writer in the *Southern Literary Messenger* remarked in 1856, "will show that half a dozen different narratives of the same life may be constructed, each of which shall contain facts and facts only, while none of them shall furnish . . . a true account."

Even when he is dealing with directly observable actions, the biographer's ability to select from among many different facts gives him a tremendous power. Suppose one were writing a life of Harry S. Truman. One might emphasize Truman's failure as a haberdasher, his connection with the corrupt Pendergast machine in Missouri, the devious circumstances of his selection as Roosevelt's running-mate in 1944, his early fumblings with the complexities of his job after Roosevelt's death, his overdependence upon certain un-

savory cronies, his temper (as expressed, for example, in a letter to a certain music critic), the failure of his China policy, his "softness" toward Communism in his administration, and many similar aspects of his career. On the other hand, one might play down or ignore all these things and stress Truman's fine service as an artillery officer in World War I, his liberal record as Senator from Missouri during the New Deal era, the way he championed civil-rights legislation as President, the high calibre of so many of his appointees in the foreign policy field, his courageous stand in the Korean crisis, and other incidents that show him in a friendly light. All the *facts* used in either of these approaches might be accurate, but the resultant stories would be very different. Anyone who considers these accounts impossibly exaggerated should look into two lives of Andrew Jackson, one published by his friend Amos Kendall, the other by Davy Crockett.

Even when the biographer is scrupulously fair in his selection of evidence, he can still alter the impression he leaves by the way he interprets the evidence. In his life of Andrew Carnegie, John C. Winkler attempted to portray the great steel baron as an avaricious, selfish man. He did not ignore the fact that Carnegie had given millions to charity. Instead he pointed out the fact that Carnegie had no sons. "Could he have resisted the temptation to place *his* son among the world's super-rich and super-powerful? One doubts. For Andrew Carnegie came of a tribe clannish and jealous of its privileges, eager for glory, and with both eyes peeled for the main chance." Of course, Carnegie did have a daughter. This, to Winkler, was beside the point!

Most interpretations are more honest than this but not necessarily more correct. Consider the myriad ways that biographers have interpreted a simple fact in the life of Abraham Lincoln. In the years before the Civil War, while he was speaking out strongly against the extension of slavery, Lincoln was strangely reluctant to join the new Republican

Party, though it embodied the principles he believed in. To explain why involves not discovering new facts but interpreting the known facts. And almost every conceivable interpretation has been offered by one or another of Lincoln's biographers:

Ward Hill Lamon, *Recollections of Abraham Lincoln*: Lamon simply ignores the whole question.

Emil Ludwig, *Lincoln*: Ludwig denies that Lincoln hesitated. "Lincoln was naturally in the fore in the foundation of the new party."

N. W. Stephenson, *Abraham Lincoln*: Stephenson says that Lincoln's delay was an example of his "natural deliberation."

A. J. Beveridge, *Abraham Lincoln*: Beveridge attributes the hesitation to Lincoln's "obstinate mind."

Edgar Lee Masters, *Lincoln, the Man*: Masters claims that Lincoln was too stupid to make up his mind. "He did not know what to do; and there was no fire in him to burn up and light the way."

Some authors, striving for objectivity, have tried to avoid all interpretation by confining themselves entirely to "the facts," but this is neither possible nor desirable. The reader wants to know not only what the facts are, but what the author thinks they mean. Admittedly the accuracy of most important interpretations, especially those concerned with personality, is beyond positive demonstration. But the biographer must do his best, using his knowledge and his imagination. Instead of steering clear of interpretations, instead of stifling his imagination, instead of attempting the impossible task of refusing to select the important from the trivial in the interest of an inattainable objectivity, the biographer must interpret, imagine, and select constantly if he is to approach the reality he seeks. But he must remember that it is *reality* that is his object, not a mirage. He is, as the critic Desmond MacCarthy once said, "an artist who is on oath."

Scrutinize these excerpts from two widely-read biographies. The first, from Lytton Strachey's sketch of Florence Nightingale (in *Eminent Victorians*), seems completely straightforward and factual:

Why, as a child in the nursery, when her sister had shown a healthy pleasure in tearing her dolls to pieces, had *she* shown an almost morbid pleasure in sewing them up again? Why was she driven now to minister to the poor in their cottages, to watch by sick-beds, to put her dog's wounded paw into elaborate splints as if it was a human being?

The second, from Benjamin P. Thomas's *Abraham Lincoln*, seems much less solidly grounded upon fact:

The lonely man in the White House had time for meditation while he waited for news night after night. With his strong sense of fatalism, he felt a Power beyond himself shaping the nation's destiny, and in an hour of anxiety he solemnly penned his thoughts.

Strachey's obvious purpose in the first passage was to show that in childhood Florence Nightingale exhibited almost as an obsession the passion for nursing that was to become her chief interest in life. But his statements, "based on" Sir Edward Cook's *Life of Florence Nightingale*, are distortions and outright perversions of the facts as Cook reported them. The dog, for example, was not hers, its leg was not "put into elaborate splints," and Florence merely assisted the local parson in the first aid that was actually administered. The source that Strachey "translated" into the sister's "tearing her dolls to pieces," actually reads: "[Florence] used to nurse and bandage the dolls which her elder sister damaged," a remark that clearly indicates no more than ordinary childish wear and tear. Further, the whole passage ignores Cook's explicit warning that most stories about Florence's early interest in nursing are unauthenticated, probably representing no more than an *ex post facto* exaggeration of traits common to most little girls. "Florence Nightingale is not the only little girl

who was fond of nursing sick dolls or mending them when broken," Cook wrote. "Other children have tended wounded animals." Strachey interpreted the evidence; he used his imagination; but he violated his "oath" as a biographer.

Thomas's description of Lincoln, however, while more imaginative, is truthful. Fortunately, he has described the reasoning behind his reconstruction of Lincoln's thoughts and feelings:

Sometime during the late summer of 1862, when Lee and his army were thrusting into Maryland, Lincoln wrote a memorandum. . . . "The will of God prevails. In great contests each party claims to act in accordance with the will of God. Both *may* be, and one *must* be wrong. God cannot be *for*, and *against*, the same thing at the same time." Then he goes on, wondering why God, who, by his mere quiet power over the minds of men, could stop the war at any time, allows it to continue; trying to find out what God's purpose is. Those are all the facts we have. But here is where the imagination comes in. Lincoln must have been alone. He couldn't have thought out and penned such a memorandum except in solitude. But he was an extremely busy man. If he was alone, he must have written it late at night. Why was he up late and not working? He must have been waiting for news. What was his mood? Solemn, obviously, from the nature of the memorandum. Anxious, inevitably, with the enemy on Northern soil and a great battle impending.

As a result of this reasoning, Thomas wrote the above-quoted lines. "These sentences are largely imaginative," he admitted, "yet I am convinced that they portray the situation accurately, and that something would have been lost in the telling without the use of imagination."

The novelist can use imagination the way Strachey used it, for the truths he seeks to describe are universal and non-specific. The biographer's imagination must be *controlled*, for his truth is individual and specific. Marchette Chute, who has managed to write biographies of men like Chaucer and Shakespeare (whose personal lives can only be reconstructed

imaginatively) without violating the canons of her profession, has put it this way: "There is no fun in a thing unless you play the game according to the rules. . . . The basic restriction upon any biographer is that he must be trying to tell the truth."

But the dangers involved in the over-free use of imagination and the reckless misuse of selection and interpretation are scarcely more serious than those resulting from the attempt to suppress these devices completely. Lytton Strachey must be forgiven many of his failings, if only for the lively attack which he aimed, in his *Eminent Victorians*, at all dull and uninspired biographical compilations: "Those two fat volumes, with which it is our custom to commemorate the dead—who does not know them, with their ill-digested masses of material, their slipshod style, their tone of tedious panegyric, their lamentable lack of selection, of detachment, of design? They are as familiar as the *cortège* of the undertaker, and wear the same air of slow, funereal barbarism. One is tempted to suppose, of some of them, that they were composed by that functionary, as the final item of his job."

Actually, in his assault upon such books Strachey in one sense went too far, and in another not far enough. He was complaining of the inordinate length and artlessness of so many Victorian biographies. His own works were brief and compact—and malicious. Yet he conveniently forgot works like John Morley's life of Voltaire, Lord Bryce's biographical sketches, James Parton's *Famous Americans of Recent Times*, and many other examples of 19th- and early 20th-century biography that were brief, lively, and far more honest than his own.

But Strachey also failed to stress the weakness of so many biographies which, though unbiased in judgment and well-expressed in form, showed a lack of understanding of the dual nature of biography. Since the publication of *Eminent Victorians* in 1918, the bulky "commemorative" biography which

Strachey scorned has generally disappeared, victim of the increasing cost of bookmaking and (it may be hoped) an improvement in public taste. But the majority of present-day works, particularly those that represent the greatest investments of time and scholarly effort, those whose authors may be best trained professionally for the task at hand, have failed to deal with the problem of personality in any coherent, organized way. Too often the writer, an academic person trained in history, say, or literature, has been interested only in describing minutely the significance of X's role in the fight over the Tariff of Abominations, or in advancing some new interpretation of the poetry of Y. The result is poor biography, and perhaps it is not even good history or good criticism.

In 1750 Doctor Johnson complained that "biography has often been allotted to writers who seem very little acquainted with the nature of their task." This continues to be true. On the one hand there have been the glib and careless popularizers, those whom Addison called the "Grub-street biographers, who watch for the death of a great man, like so many undertakers, on purpose to make a penny of him." On the other hand there have been the plodding collectors of facts, to whom the need for artistry or even technique has never occurred. As Edmund Gosse once complained: "The popular idea seems to be that no one is too great a fool, or too complete an amateur, or too thoroughly ignorant of the modes of composition, to undertake the 'life' of an eminent person." Occasionally (but only occasionally) a biographer has appeared who appreciated the nature of his task. When this happens, first-rate biography may be the result.

III

If biography is to be compounded of career and character, what is the recipe, what the balance? According to Gosse, "there should be some relation between the size of [a subject's]

portrait and the effect which he produced in public life." But there must be room for different tastes and purposes. A satisfactory study may be very short, in which case career is probably subordinated to personality, or it may just as logically run to several volumes with greater stress laid upon the historical setting and a detailed record of the subject's activities. The danger is that the former will be long on unsupported generalizations, and that the latter will lose its subject in a maze of detail. This is not to disparage longer works, which, from John Morley's *Gladstone* and Albert Bigelow Paine's *Mark Twain* to such modern behemoths as Freeman's four volumes on *R. E. Lee* and the still uncompleted works of Arthur S. Link on Wilson, Frank Freidel on Franklin D. Roosevelt, and Dumas Malone on Jefferson, have served a useful purpose. It does often seem, however, that all of these books and others of the type are closer akin to history than biography. In his mammoth *George Washington*, Freeman devoted 110 pages to a description of the Virginia society in which Washington grew up, scarcely mentioning his subject's name in the process. He even covered a full page with a description of the state of the world during the months Washington spent in his mother's womb—a passage which included a select list of important figures recently deceased and soon to be born, and the ages and contemporary status of George II, Sir Robert Walpole, Montesquieu, Handel, Bach, Frederick of Prussia, Kant, William Pitt, and half a dozen others.

In truth, for a literary form with a long history, biography has produced fewer recognized masterpieces than any other type of writing, and many of these gems have been special cases, lucky accidents rather than the result of the application of sound principles of biographical writing. Nearly all our outstanding biographies, from Einhard's *Charlemagne*, to Vasari's *Lives of the Painters*, to Boswell's *Life of Samuel Johnson*, and down to such recent classics as Robert E. Sher-

wood's *Roosevelt and Hopkins*, have been written by men who have known their subjects personally.

Most of the authorities on biography have believed that intimate acquaintance with the subject is a prerequisite of great biography. Doctor Johnson certainly thought so, and Boswell's experience in writing *his* life seems to bear his judgment out. So did Voltaire, who wrote: "Tis a monstrous piece of charlatany to pretend to paint a personage with whom you have never lived." Waldo H. Dunn, in his important history of English biography, came to the same conclusion. The German scholar, Georg Misch, wrote that "great works of biographical art . . . are always made possible only by a living relationship between the biographer and his subject." More recently, Harold Nicolson pointed out the advantage of personal acquaintance in providing "a system of triangulation enabling the author to fix the position of his hero with greater accuracy than would ever be possible were he writing about people whom he had never personally known."

But there have been dissenting opinions. The merit of such lives lies chiefly in the pictures they present of their subjects' personalities, which not only look "real," but, because of the special circumstances, may be presumed to be so. They are not likely to excel in descriptions and evaluations of their subjects' careers or in estimations of their subjects' place in history. Since both career and character are vital in biography, most biographies by contemporaries have serious defects, however interesting they may be. Even Boswell's *Johnson*, certainly the most universally admired biography in any language, suffers from grave faults when judged as a biography. Boswell has been justly praised for his brilliant use of anecdote and conversation, for his subtle synthesis of materials, and for his masterly presentation of character. But his book is all out of proportion, with its heavy emphasis on the last years of Johnson's life, and it is

dependent for that period chiefly on the observations of one man, the author. Where Boswell was forced to make use of sources other than his own keen eye and acute ear for dialogue, his book is hardly more than pedestrian in quality. It may be the world's best biography, but it is not a model biography.

Indeed the great virtues of all the classic biographies written by authors who were intimates of their heroes have really been autobiographical rather than biographical. And despite superficial similarities, the two forms are intrinsically quite separate. Autobiography results from remembrance, biography from reconstruction. Boswell's *Johnson* is essentially one man's recollections of another. (Or at least its lasting interest depends upon the personal relationship that existed between the two men, and Boswell's ability to describe that relationship vividly and honestly.) It is not that books like the *Life of Johnson* are unimportant. Of course they are far superior to the general run of biography. But to discuss them in a consideration of the nature of biography is not very profitable. They have been unique personal successes.

Admittedly there is no reason why Boswell, for instance, could not have written a biography of someone he had not known. He was a close student of the form. If he had, it might have been a great book—but it would have been quite unlike his *Johnson*. Johnson's own biography of the unfortunate friend of his youth, Richard Savage, is a much sharper portrait than most of the later *Lives of the English Poets* to which it was eventually appended. So is Carlyle's brilliant sketch of his friend John Sterling superior (as portraiture) to his mammoth lives of Cromwell and Frederick the Great. But few would argue that Johnson's estimate of Savage as a poet, or even Carlyle's judgment of Sterling's career, are comparable either to similar judgments in these authors' other biographical works, or to the critical evaluations of Savage and Sterling made by later students.

In short, those who stress the importance of personal knowledge are thinking in terms of character rather than career. If, by its nature, biography must encompass both, the life written by a contemporary is not likely to be perfectly balanced. Further, if great biography must await the chance congruence of a worthy subject and a talented observer, it has only a limited future, and many important individuals can never hope to be chronicled adequately after they have passed on.

Perhaps the nature of biography places perfection beyond attainment. To describe the *man* one really ought to know him intimately; to evaluate his *work* one needs perspective, and access to records seldom available to contemporaries. But fortunately for the practicing biographer, who deals chiefly with figures out of the past, it is at least possible to overcome the absence of personal acquaintance, whereas perspective (by definition) can come only with time. The problem of recreating a personality one has never known is great, but should not be insurmountable. The serious biographer, baffled by the imponderables of personality, may be tempted to limit his activities to describing and explaining his subject's career, which is concrete and definable. But he should resist this temptation. He may never be able to know his man as Boswell knew Johnson. But he must try to do so. The end is understanding; the means are sympathy, scholarship, and sensitivity.

In sum, biography is the reconstruction of a human life. It attempts to describe and evaluate one individual's career and also to reproduce the image of his living personality, analyzing its impact upon his actions and the world in which he lived. All biographies must be historical and scientific in that they aim at truth and depend upon verifiable evidence. At the same time they must be imaginative and artistic, because insight and felicity of expression are essential if the full three-dimensional truth is to be transferred to the

flat surface of a printed page. The biographer's responsibility is large. He assays the role of a god, for in his hands the dead can be brought to life and granted a measure of immortality. He should at least, then, seek to emulate the more reliable divinities in his zeal for truth, his tolerance of human frailty, and his love for mankind.

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THE MYTH AND RITUAL APPROACH TO SHAKESPEAREAN TRAGEDY

Herbert Weisinger

THE "MYTH AND RITUAL" approach to literature is now one of the high gods in the pantheon of contemporary criticism, and it numbers among its devotees not a few eminently respectable names. This was not always so, however, and even as Zeus himself had laboriously to struggle up the ladder of divine acceptance, so the myth and ritual approach to literature now grows fat on quarterly hecatombs. So much so, indeed, that the very word *myth* has acquired a mana of its own and has been elevated into a substitute, less precise, less bold, and I dare say, less honest, for religion, though in this guise it has given many the courage of their conversion. As with other methods for the study of literature, the myth and ritual approach has its values, and they are distinctive and useful, but it also has its limitations, for it is certainly not a panacea concocted to cure all critical complaints.

What I want to do in this paper is to describe the myth and ritual approach to literature as I understand it and to show what new light it can throw on Shakespeare's tragedies, and presumably to illuminate them afresh. For the purposes of this analysis, I take the myth and ritual pattern as fundamental and anterior to tragedy, and I pass Shakespeare's tragedies over this pattern, as tracings over the original drawing, in order to reveal his changes, modifications, and alterations of it; that is to say, I try to distinguish the uniquely Shakespearean from the generally tragic. But I do not wish to be understood as suggesting that the myth and ritual pattern is either the *ur*-tragedy from which all others descend or the

ideal tragedy toward which all others tend. Nor would I want to give the impression that the myth and ritual approach to Shakespearean tragedy excludes other established methods of interpreting the plays. The character analysis in ethical terms of Bradley, the visualization of the plays in action on the stage of Granville-Barker, the linking of Elizabethan tragedy with medieval traditions of Farnham, the study of Shakespearean characterization in the light of Elizabethan psychology of Campbell, the examination of the images and image-clusters of the plays as clues to their meaning of Spurgeon, the close reading of the text for structure and texture of Empson, the probing of character in Freudian psycho-analytic categories of Jones, the working-out of the Elizabethan world picture and its role in the Shakespearean ethos of Tillyard, the re-estimation of the extent and use of Shakespeare's learning of Baldwin, the utilization of the new texts established by the scientific bibliographers, the application of Christian ritual to the understanding of the plays of Knight, the placing of Shakespeare within the practices and economy of Elizabethan acting companies of Chambers, the syncretism of the *Scrutiny*-Penguin group—the achievements of these schools of Shakespearean criticism the myth and ritual approach endeavors to assimilate within its own methodology.

Certainly I am not the first to suggest such a correlation; on the contrary, many critics have seen the connection and have in fact gone beyond the tragedies to the later plays in an effort to prove that the pattern of rebirth and reconciliation is fundamental to virtually the whole of Shakespeare's plays. But, while the myth and ritual pattern so used makes, if I may say so, a Christian Olympian out of Shakespeare, it does so only at the expense of the myth and ritual pattern and of the substance of the plays themselves. It is my contention that while the last plays of Shakespeare do indeed carry forward the tragic pattern established in *Hamlet*, *Othello*,

King Lear, and *Macbeth*, they neither heighten nor deepen it but on the contrary reject and even destroy it. In fact, I would go so far as to argue that the tragic pattern in the tragedies themselves is scarcely maintained equally strongly over each of the plays. For, on the basis of a comparison between the myth and ritual pattern as I have described it in *Tragedy and the Paradox of the Fortunate Fall* and the tragedies, I think that Shakespeare's tragic vision, which he was able to sustain but tentatively in *Hamlet*, most fully in *Othello*, barely in *King Lear*, and hardly at all in *Macbeth*, failed him altogether in the last plays, and that this failure is manifested by the use of the elements of the myth and ritual pattern as mere machinery, virtually in burlesque fashion, and not as their informing and sustaining spirit. The instinct of the critics in applying the myth and ritual pattern to the plays has been sound, but their superimposition of the pattern on the plays has been inexact and, I suspect, prompted more by religious rather than by critical motives, with the result that both the method and the plays have been falsified.

I

If I begin with some diffidence, it is because I am always acutely aware that the myth and ritual pattern, upon which the myth and ritual approach to literature must be founded, is as uncertain in its origins as it is unrealized in actuality. I have tried to account for the persistence and power of the myth and ritual pattern by retracing it generally to that initial impact of experience which produced the archetypes of belief, and specifically, to the archetype of rebirth as crystallized out of the archetype of belief. Unfortunately no real proof of this process is possible, for the events which generated the primary shock of belief are now too deep and too dim in the racial memory of man to be exhumed by archaeological means, though the psychoanalytic probings of

Freud have cleared a path through this labyrinth, with reluctant confirmation coming from the anthropologists and classicists. Similarly, we must not forget that there is really no such thing as the myth and ritual pattern *per se*; at best, it is a probable construction of many varieties and variations of a number of beliefs and actions so closely related to each other that it is reasonable to construct—reconstruct would be a misleading word here—an ideal form of the myth and ritual pattern more comprehensive and more realized than any variations of it which we actually possess.

The myth and ritual pattern of the ancient Near East, which is at least six thousand years old, centers in a divine king who was killed annually and who was reborn in the person of his successor. In its later development, the king was not killed, but went through an annual symbolic death and a symbolic rebirth or resurrection. Starting out as a magical rite designed to ensure the success of the crops in climates where the outcome of the struggle between water and drought meant literally the difference between life and death, the pattern was gradually transformed into a religious ritual, designed this time to promote man's salvation, and finally became an ethical conviction, freed now of both its magical and religious ritual practices but still retaining in spiritualized and symbolic form its ancient appeal and emotional certitude. Because it begins with the need to survive, the pattern never loses its force, for it is concerned always with survival, whether physical or spiritual. So far as can be ascertained at present, the pattern had a double growth, one along the lines of the ancient civilizations of the Near East, the Sumerian, the Egyptian, the Babylonian, both South and North, the Palestinian—first with the Canaanites, and then with the Hebrews—and from thence into Christianity; the other along the lines of the island civilizations of the Aegean, from Crete to the mainland of Greece, from thence to Rome, and once more into Christianity, the two streams of develop-

ment flowing into each other and reinforcing themselves at this crucial juncture.

Despite the differences between the religions of the ancient Near East (as, for example, between those of Egypt and Mesopotamia, and between that of the Hebrews and of the others), nevertheless they all possessed certain significant features of myth and ritual in common. These features, in their turn, stemmed from the common bond of ritual, characteristic (in one form or another) of all together, though, as I have said, none possessed completely all the elements, which varied in some degree from religion to religion. In this single, idealized ritual scheme, the well-being of the community was secured by the regular performance of certain ritual actions in which the king or his equivalent took the leading role. Moreover the king's importance for the community was incalculably increased by the almost universal conviction that the fortunes of the community or state and those of the king were inextricably intermingled; indeed one may go so far as to say that on the well-being of the king depended the well-being of the community as a whole. On the basis of the evidence covering different peoples at different times, we know then that in the ancient Near East there existed a pattern of thought and action which gripped the minds and emotions of those who believed in it so strongly that it was made the basis on which they could apprehend and accept the universe in which they lived. It made possible man's conviction that he could control that universe for his own purposes; and it placed in his hands the lever whereby he could exercise that control.

From an analysis of the extant seasonal rituals, particularly the new year festivals, and from the coronation, initiation, and personal rituals of the ancient Near East, it is possible to make a reconstructed model of the basic ritual form. Essentially the pattern contains these basic elements: 1. the indispensable role of the divine king; 2. the combat between

the God and an opposing power; 3. the suffering of the God; 4. the death of the God; 5. the resurrection of the God; 6. the symbolic recreation of the myth of creation; 7. the sacred marriage; 8. the triumphal procession; and 9. the settling of destinies. We must remember, however, that the dying-rising-God theme constitutes but one illustration, so to speak, of the greater cycle of birth, death, and rebirth. The many and various rites connected with birth, with initiation, with marriage, and with death in the case of the individual, as well as the rites concerned with the planting, the harvesting, the new year celebrations, and with the installation ceremonies of the king in the case of the community, all these rites repeat each in its own way the deep-rooted and abiding cycle of death and rebirth. Not only do these rituals *symbolize* the passage from death to life, from one way of life to another, but they are the actual *means* of achieving the changeover; they mark the transition by which—through the processes of separation, regeneration, and the return on a higher level—both the individual and the community are assured their victory over the forces of chaos which are thereby kept under control.

The purpose of these rituals is by enaction to bring about a just order of existence in which God, nature, and man are placed in complete and final rapport with each other; they are both the defence against disorder and the guarantee of order. In the myth and ritual pattern, then, man has devised a mighty weapon by which he keeps at bay, and sometimes even seems to conquer, the hostile forces which endlessly threaten to overpower him. In the early stages of the development of the myth and ritual pattern, however, the best that man could hope for was an uneasy truce between himself and chaos, because the cycle merely returned to its beginnings; the God fought, was defeated, was resurrected, was momentarily triumphant, and thus ensured the well-being of the community for the coming year, but it was

inevitable that in the course of the year he would again be defeated and would again have to go through his annual agony. Thus nothing new could be expected nor was anticipated, and year after year man could hope for no more than a temporary gain which he was sure would soon be turned into an inevitable loss. To achieve genuine faith, therefore, was an act of courage difficult and infrequent to attain, and it is no wonder that we detect in the myth and ritual pattern of the ancient Near East before the Hebraic-Christian tradition takes over, too strong a reliance on the mere machinery of ritual, ultimately leading not to faith but to superstition, as well as the melancholy notes of despair and pessimism. But the Hebraic-Christian tradition in the very process of adapting the pattern, transformed it, for by virtue of its unique and tenacious insistence on the mercy and judgment of its transcendent God, it introduced a new and vital element in the pattern, that of the dialectical leap from out of the endless circle on to a different and higher stage of understanding. The crucial moment in this transformation of the myth and ritual pattern comes when man, by himself, undertakes on his own to make the leap; to him remains the decision and his is the responsibility; by making the leap, he makes himself. The Hebraic-Christian tradition utilized the cycle of birth, life, death, and rebirth to conquer chaos and disorder, but it made its unique contribution to the pattern by giving man the possibility of defeating chaos and disorder by a single, supreme act of human will which could wipe them out at one stroke. In so doing it preserved the potency of the pattern and retained its ancient appeal and, at the same time, ensured its continued use by supplying the one element it had hitherto lacked to give it its permanent role as the means whereby man is enabled to live in an indifferent universe; it showed that man can, by himself, transcend that universe.

II

This, then, is the myth and ritual pattern as I understand it. What are its implications for tragedy? To start with, I would suggest that in the myth and ritual pattern we have the seedbed of tragedy, the stuff out of which it was ultimately formed. Both the form and content of tragedy, its architecture as well as its ideology, closely parallel the form and content of the myth and ritual pattern. But having said that, I must also say that the myth and ritual pattern and tragedy are not the same. Both share the same shape and the same intent, but they differ significantly in the manner of their creation and in the methods of achieving their purposes. The myth and ritual pattern is the group product of many and different minds groping on many and different levels over long and kaleidoscopic periods of time under the stimulus of motivations quite different from those which produce tragedy. I am not suggesting anything like the formerly accepted communal origin of the ballad, for we know that myth in its form as the complement to ritual must have been devised by the priest-astrologer-magicians of the ancient world. The intent of the myth and ritual pattern is control, its method that of mimetically reproducing the rhythm of birth, death, and birth again to gain that control. But imitation here means, not acting alike, as we think of the term—a parallel and similar yet at the same time a distinct and different attitude and behavior toward the thing imitated—but rather the interpenetration of and union with the imitator, the thing imitated, and the imitation, all three being one and the same thing.

Tragedy, on the other hand, is a creation compounded of conscious craft and conviction. If we describe the myth and ritual pattern as the passage from ignorance to understanding through suffering mimetically and at first hand, then we must describe tragedy as the passage from ignorance

to understanding through suffering symbolically and at a distance. To speak of symbolic meaning is already to have made the leap from myth to art. In the myth and ritual pattern, the dying-reborn God-king, the worshippers for whom he suffers, and the action of his agony are identical; in tragedy, the tragic protagonist undergoes his suffering at an aesthetic distance and only vicariously in the minds of his audience. And for that reason does Aristotle tell us that tragedy is an imitation of an action. You participate in a ritual but you are a spectator of a play.

Moreover, tragedy reconstitutes the myth and ritual pattern in terms of its own needs. Of the nine elements which make up the myth and ritual pattern as I have described it, four have been virtually eliminated from tragedy, namely, the actual death of the God, the symbolic recreation of the myth of creation, the sacred marriage, and the triumphal procession; two elements, the indispensable role of the divine king and the settling of destinies, are retained only by implication and play rather ambiguous roles in tragedy; while the remaining three—combat, suffering (with death subsumed), and resurrection—now give tragedy its structure and substance. I have already noted that one of the characteristics of the myth and ritual pattern is its adaptability, its ability to change shape while retaining its potency, and we should therefore not be surprised to find the same process at work in its relation to tragedy. What is revealing, however, is the direction of change, for we find, first, that the theme of the settling of destinies which is the highest point in the myth and ritual pattern—the goal of the struggle, since without it the passion of the God would be in vain, and chaos and disorder would be triumphant—this theme, so elaborately explicated in the ritual practices of the ancient Near East, is no more than implied in tragedy, just as the correspondence between the well-being of the king and the well-being of the community, again so detailed in ritual, is only shadowed

forth, as a condition to be aimed at but not to be achieved in reality.

Second, we discover that even greater emphasis is placed on the small moment of doubt in tragedy than in the myth and ritual pattern itself. In the rituals of the ancient Near East, at the point between the death of the God and his resurrection, all action is arrested as the participants fearfully and anxiously wait for the God to be revived. After the din of combat, this quiet moment of doubt and indecision is all the more awful, for there is no assurance that the God will be reborn: "For a small moment have I forsaken thee." "But," continues Isaiah, "with great mercies will I gather thee." It is no wonder that the small moment is followed in the pattern by creation, the sacred marriage, and the triumphal procession as the peoples' expression of joy that the death of the God has not been in vain and that for another year at least: "the earth remaineth, seedtime and harvest, and cold and heat, and summer and winter, and day and night shall not cease."

And, clearly spelling out the implications of the second change made by tragedy in the myth and ritual pattern is the third, the freedom of choice of the tragic protagonist and the responsibility for the consequences of making that choice. For in that small moment of doubt and indecision, when victory and defeat are poised in the balance, only the moral force of man wills him on in action to success. The tragic protagonist acts in the conviction that his action is right, and he accepts the responsibility for that action; for him to do less than that means the loss of his stature as a moral, responsible agent. The tragic occurs when by the fall of a man of strong character we are made aware of something greater than that man or even than mankind; we seem to see a new and truer vision of the universe.

But that vision cannot be bought cheaply. It cannot be bought by blind reliance on the mere machinery of the myth

and ritual pattern, and it cannot be bought by fixing the fight, as Handel's librettist fatuously puts it:

How vain is man who boasts in fight
The valour of gigantic might,
And dreams not that a hand unseen
Directs and guides this weak machine.

Better the indifferent Gods of Lucretius than the busybody *deus ex machina* of Vine Street and Madison Avenue. Only the deliberate moral choice of the tragic protagonist confronted by two equal and opposite forces and fully aware of the consequences of his choice can bring off the victory, and then only at the expense of pain and suffering: "He is despised and rejected of men; a man of sorrows, and acquainted with grief." But suffering can be made bearable only when at the same time it is made part of a rational world order into which it fits and which has an understandable place for it:

I cried by reason of mine affliction unto the Lord, and he heard me; out of the belly of hell cried I, and thou heardest my voice.

For thou hadst cast me into the deep, in the midst of the seas; and the floods compassed me about: all thy billows and thy waves passed over me.

Then I said, I am cast out of thy sight; yet I will look again toward thy holy temple.

The waters compassed me about, even to the soul: the depth closed me round about, the weeds were wrapped about my head.

I went down to the bottoms of the mountains; the earth with her bars was about me for ever: yet hast thou brought up my life from corruption, O Lord my God.

When my soul fainted within me I remembered the Lord: and my prayer came in unto thee, into thine holy temple.

They that observe lying vanities forsake their own mercy.

But I will sacrifice unto thee with the voice of thanksgiving; I will pay that that I have vowed. Salvation is of the Lord. (*Jonah* 2. 2-9)

Salvation is indeed of the Lord, but Jonah must deliberately look to the holy temple and must remember the Lord of his own free will; *then* salvation is of the Lord.

Tragedy therefore occurs when the accepted order of things is fundamentally questioned only to be the more triumphantly reaffirmed. It cannot exist where there is no faith; conversely, it cannot exist where there is no doubt; it can exist only in an atmosphere of sceptical faith. The protagonist must be free to choose, and though he chooses wrongly, yet the result of the wrong choice is our own escape and our enlightenment. Yet nothing less than this sacrifice will do, and only the symbolic sacrifice of one who is like us can make possible our atonement for the evil which is within us and for the sins which we are capable of committing. Nevertheless, in western thought, if man is free to choose, in the end he must choose rightly. He is free to choose his salvation, but he is punished for his wrong choice. Man is free, but he is free within the limits set for him by his condition as a man. So great is the emphasis placed on freedom of choice in tragedy that the settling of destinies, which in the myth and ritual pattern is the tangible reward of victory, recedes more and more into the background, and the messianic vision implicit in the settling of destinies is personalized and humanized in tragedy in the form of heightened self-awareness as the end of the tragic agony. In short, what I have been saying is that the myth and ritual pattern pertains to religion which proceeds by assertion, tragedy to literature which proceeds by assessment.

To sum up, then, the structure of tragic form, as derived from the myth and ritual pattern may be diagrammed in this way: the tragic protagonist, in whom is subsumed the well-being of the people and the welfare of the state, engages in conflict with a representation of darkness and evil; a temporary defeat is inflicted on the tragic protagonist, but after shame and suffering he emerges triumphant as the

symbol of the victory of light and good over darkness and evil, a victory sanctified by the covenant of the settling of destinies which reaffirms the well-being of the people and the welfare of the state. In the course of the conflict there comes a point where the protagonist and the antagonist appear to merge into a single challenge against the order of God; the evil which the protagonist would not do, he does, and the good which he would, he does not; and in this moment we are made aware that the real protagonist of tragedy is the order of God against which the tragic hero has rebelled. In this manner is the pride, the presumption which is in all of us by virtue of our mixed state as man, symbolized and revealed, and it is this *hybris* which is vicariously purged from us by the suffering of the tragic protagonist. He commits the foul deed which is potentially in us, he challenges the order of God which we would but dare not, he expiates our sin, and what we had hitherto felt we had been forced to accept we now believe of our free will, namely, that the order of God is just and good. Therefore is the tragic protagonist vouchsafed the vision of victory but not its attainment:

But the Lord was wroth with me for your sakes, and would not hear me: and the Lord said unto me, Let it suffice thee; speak no more unto me of this matter.

Get thee up into the top of Pisgah, and lift up thine eyes westward, and northward, and southward, and eastward, and behold it with thine eyes: for thou shalt not go over this Jordan. (*Deuteronomy* 3. 26-27)

III

Seen from this point of view, *Hamlet* is a particularly fascinating example of the relationship between the myth and ritual pattern and tragedy, because it shows within the action of the play itself the development of Shakespeare's awareness of tragedy as a heightened and secularized version of the pattern. *Hamlet* begins by crying for revenge which is personal

and ends by seeking justice which is social. Shakespeare deals with the problem of the play—how shall a son avenge the injustice done his father?—by presenting it to us in four different yet related ways simultaneously, each consistent within its pattern of behavior, yet each overlapping and protruding beyond the other, like the successive superimpositions of the same face seen from different angles in a portrait by Picasso. First, there is Hamlet-Laertes who, incapable of seeking more than revenge, dies unchanged and unfulfilled, no better nor no worse than when he had begun. Then there is Hamlet the Prince, caught midway between revenge and justice, who passes from ignorance to understanding but too late. Third, there is Hamlet-Fortinbras who avenges his father's wrongs by joining the warring kingdoms into a single nation under his able rule. And finally, containing all these Hamlets, is Hamlet the King, idealized by his son into the perfect king whom he must replace. From this dynastic destiny stems Hamlet's ambivalence towards his father: he loves him for the man he wants to be himself and hates him for the King who stands in the way of the Prince and for the father who stands in the way of the son. Seeking his father's murderer, Hamlet finds himself. The same necessity holds Hal and Hamlet alike, but where Hal sees a straight line between his father and himself—"You won it, wore it, kept it, gave it me; / Then plain and right must my possession be." (*II Henry IV*. IV.v.222-23)—and is therefore sure of himself and of his actions, Hamlet finds himself in a labyrinth whose walls are lined with trick doors and distorting mirrors: "O cursed spite, / That ever I was born to set it right!"

Hamlet's ambivalence is reflected in the fragmentation of his character; there are as many Hamlets as there are scenes in which he appears, and each person in the play sees a different Hamlet before him. But of the contradictions in his character, two stand out as the major symptoms of his

incompleteness. The first is Hamlet's yearning to be able to act, not for the sake of action alone, but rightly, in the clear cause of justice; for while no tragic protagonist acts more frequently and more vigorously than Hamlet, he is more and more perplexed to discover that the more he would do good—that is, cleanse Denmark by avenging his father's death—the more evil he in fact accomplishes; hence his envy of Fortinbras' ability to act resolutely and without equivocation (IV. iv.). Second, though he is nominally a Christian, yet in the moments of sharpest crisis Hamlet turns instead to the consolations of Stoicism: "If it be now, 'tis not to come; if it be not to come, it will be now; if it be not now, yet it will come; the readiness is all. Since no man has aught of what he leaves, what is't to leave betimes?" (V.ii.231-35). And it is not enough: his mission succeeds only by mischance, his cause is still not understood, and with his dying breath he calls on Horatio, the true Stoic, to tell his story to the unsatisfied. Hamlet's vision is still clouded at his death—"Things standing thus unknown"; Horatio's own version of the events is surprisingly but an advertisement for a tragedy by Seneca (V.ii.391-97); and there is something too cold and callous in the way Fortinbras embraces his fortune. In short, the myth and ritual elements have not been completely assimilated into the tragedy: the suffering of the tragic protagonist is neither altogether deserved nor altogether understood by him, the rebirth is not quite inevitable nor necessary, and the settling of destinies in the person of Fortinbras is somewhat forced and mechanical. The genuine sense of tragic loss is somewhat vulgarized into regret: Hamlet has been too-fascinating.

In *Othello*, Shakespeare mixed his most perfect amalgam of the myth and ritual elements with tragedy. Where in *Hamlet* he was almost too fecund and profusive in characterization—*invention inundating integration*—in *Othello* he ruthlessly simplified and organized; if *Hamlet* is linear,

proceeding by the method of montage and multiple exposure, *Othello* is monolithic and nuclear: the opposites of good and evil in human nature are forcibly split and then fused together in the fire of suffering. By overvaluing human nature, Othello destroys the balance between good and bad which is the condition of man; by undervaluing human nature, Iago brings about the same destruction from the equal and opposite direction. Each in his own way is an incomplete man: where Othello responds emotionally, Iago reasons; where Othello feels that men are better than they are, Iago knows that they are worse; each, in short, believes only what he wants to, and they are alike only in that both lack tolerance and understanding. Othello must be made to realize that the perfect love which he demands—"My life upon her faith!" "And when I love thee not, Chaos is come again."—is nothing more than the perfect hate which Iago practices:

Othello. Now art thou my lieutenant.

Iago. I am your own for ever. (III.iii.478-89)

If Iago is motivated by pride, will, and individualism, so then is Othello in his own way. Iago is the external symbol of the evil in Othello, for everything that Othello would stand for is negated and reversed in Iago: the subverter of the order of God whose coming is after the working of Satan, the man who rejects principle, and who denies virtue, love, and reputation. To him, ideals are but a mask which conceals the sensuality, the brutality, and the greed for money, power, and sex, which he believes constitute man's true nature.

As the opposites of character in *Othello* and Iago meet and merge in Act III, scene iii, Othello becomes for the moment Iago: he reverts to paganism and calls on the stars for help, he orders his friend murdered, he spies on and humiliates and at the last repudiates his wife: "She's like a liar, gone to burning hell." But this is for him the bottom

of the pit, and by a supreme effort of will he purges the Iago from within him; and in that awful moment of self-awareness, he recreates himself as he might have been, he realizes his potential as a human being. Having by his rashness put the well-being of the people and the welfare of the state in jeopardy, as Brabantio had foretold, perhaps better than he knew,—

Mine's not an idle cause. The Duke himself,
Or any of my brothers of the state,
Cannot but feel this wrong as 'twere their own;
For if such actions may have passage free,
Bond-slaves and pagans shall our statesmen be. (I.ii.95-99)

—Othello is inevitably punished. And Iago is defeated by the one force which he is incapable of understanding, the power of principle. What he fails to see is that Othello's love for Desdemona is the symbol of Othello's faith in the goodness and justice of the world. What Othello seeks, therefore, when that faith is called into question, is not revenge, which is Iago's goal, but the cleansing of evil and the reaffirmation of goodness and justice: "It is the cause, my soul." From the depth of his self-awareness, bought at so dear a price, there emerges the theme of the settling of destinies, not embodied in the person of a successor, but filling as it were with its vision the entire stage, the sign of evil purged and the good restored, the image of man in his full stature as responsible man: "Speak of me as I am." "And when man faces destiny," Malraux writes, "destiny ends and man comes into his own."

IV

Both *Hamlet* and *Othello* possess three features in common which by contrast are not present in *Lear* and *Macbeth*. First, both *Hamlet* and *Othello* are for the Elizabethan audience contemporary plays laid in contemporary or nearly contemporary settings. No great historical distance separates them from their audience as it does in *Lear* and *Macbeth*,

which are laid in pre-Christian England and Scotland. Second, both *Hamlet* and *Othello* operate within the Christian framework, recognized and apprehended as such by the audience for which they were written. But in *Lear* and *Macbeth* the pagan background is insistent. From the depth of their suffering Lear and Gloucester can appeal no higher than to the heathen gods: "As flies to wanton boys, are we to th' gods,/ They kill us for their sport" (IV.i.38-39); and Edgar's wisdom is but cold comfort in the Stoic manner: "Bear free and patient thoughts" (IV.vi.80). In *Macbeth*, the witches play the same role as do the gods in *Lear*:

But 'tis strange;
And oftentimes, to win us to our harm,
The instruments of darkness tell us truths,
Win us with honest trifles, to betray 's
In deepest consequence. (I.iii.122-26)

Finally, the theme of the settling of destinies—present directly in *Hamlet* and indirectly in *Othello*—fades away in *Lear* and disappears altogether in *Macbeth*. These changes reveal a significant shift in Shakespeare's use of the myth and ritual pattern and seem to be symptomatic of his increasing inability to bear the burden of the tragic vision. Having confronted the face of evil in *Othello* with an intensity unmatched even by the man staring at Death in Michelangelo's "Last Judgment," and having in the face of that evil been able to reassert the good, Shakespeare seems to have fallen back exhausted, so to speak, the effort of holding off evil weakening with each successive play.

Lear begins with the abdication of responsibility already accomplished; that a king could even contemplate, let alone achieve, the division of his kingdom must have struck an Elizabethan audience with fear and horror. By his own act, Lear deliberately divests himself of power and retains only the trappings of power, which in turn are one by one inexo-

rably stripped from him until he stands naked on the heath in the rain. The waters of heaven give him wisdom, but his insight into the hypocrisy of this great stage of fools comes to him only in his madness, and he realizes at last that clothes —the symbols of his *hybris*—make neither the king nor the man. Having been purged of the pride of place, he sees himself as he is:

I am a very foolish fond old man,
Fourscore and upward, not an hour more nor less;
And, to deal plainly,
I fear I am not in my perfect mind. (IV.vii.60-63)

But this moment of illumination, of heightened self-awareness, so like Othello's, occurs not at the end of Act V, where it would be normally expected, but at the end of Act IV. Having said "Pray you now, forget and forgive; I am old and foolish" (IV.vii.85), what is left for Lear to say? Yet Shakespeare forces the action on to the shambles of the Grand Guignol of Act V, completely cancelling the calming and cleansing effect of the tragic vision already attained with Lear's self-awareness. The play ends not with the hope that this suffering has not been in vain, but with the defeatism of Kent's "All's cheerless, dark, and deadly" and Edgar's "The oldest hath borne most; we that are young/ Shall never see so much, nor live so long." The order of nature has been turned topsy-turvy; the old who cannot bear suffering have endured too much of it; the young who should be able to bear it are too weak.

But at least *Lear* gives us the consolation of the settling of destinies, mishandled and misplaced as it is. There is none in *Macbeth*. The action of the play begins with the figure of the bloody man and ends with the figure of the dead butcher, and nothing between mitigates the endless horrors of the progression from one to the other. Macbeth accepts the evil promise of the witches' prediction because they so neatly

match the evil ambition already in him. Nor does his desire for the crown even pretend that it is for the well-being of the people and the welfare of the state, that excuse which gives some color to Bolingbroke's ambition: "I have no spurs/ To prick the sides of my intent," Macbeth confesses to himself, "but only/ Vaulting ambition." The country suffers under Macbeth's iron rule; "Things bad begun make strong themselves by ill" (III.ii.55), says Macbeth, and Malcolm confirms him:

I think our country sinks beneath the yoke;
It weeps, it bleeds; and each new day a gash
Is added to her wounds. (IV.iii.39-41)

More—while Malcolm stands behind Macbeth as Fortinbras stands behind Hamlet, can we seriously accept him as the doctor who can "cast/ The water of my land, find her disease,/ And purge it to a sound and pristine health" (V.iii. 50-52)? What are we to make of a potential successor to the throne whose own ambivalence towards himself confounds even his strongest supporter? Is Macduff—are we—really persuaded that Malcolm is in fact capable of exhibiting "The king-becoming graces,/ As justice, verity, temp'rance, stabbleness,/ Bounty, perseverance, mercy, lowliness,/ Devotion, patience, courage, fortitude" (IV.iii.91-94)? Surely his black scruples, coupled with his innocence and inexperience, bode ill for Scotland, whatever the outcome, so that when at last Malcolm is hailed King of Scotland, and, like Hal and Fortinbras, emerges as the symbol of the settling of destinies, our eyes do not see the vision of peace rising from suffering, and our ears hear only the echo—

for, from this instant,
There's nothing serious in mortality.
All is but toys; renown and grace is dead;
The wine of life is drawn, and the mere lees
Is left this vault to brag of. (II.iii.96-101)

—repeated in the dying close of Macbeth's reply to Seyton. The witches have indeed triumphed:

He shall spurn fate, scorn death, and bear
His hopes 'bove wisdom, grace, and fear;
And, you all know, security
Is mortals' chiefest enemy. (III.v.30-33)

Man's security, for which he has fought so feverishly, the guarantee of rebirth, has at the very last moment been snatched away from him. Tragedy may be much more and much different from what I have been suggesting here, but one thing it cannot be and that is a tale signifying nothing.

V

A few words must be said about the Roman tragedies. Though *Timon of Athens* and *Coriolanus* provide almost too easy confirmation of the point I am making, *Julius Caesar* and *Antony and Cleopatra* would seem substantial stumbling-blocks in the path of my argument. But the obstructions are not in the plays themselves so much as in our uncritical acceptance of the liberal view of Brutus as the champion of liberty laying down his life to free Rome from the shackles of tyranny, and of the romantic adulation of Antony and Cleopatra as lovers whose passion is so much beyond the ordinary that it justifies their indifference to mere mundane obligation. Having learned to read the histories as an aesthetic and ideological unity, so we must read *Julius Caesar* and *Antony and Cleopatra* as the continuous exposition of a single theme, that of the responsibility of rule. The clue to the Elizabethan judgment of Brutus is to be found in Canto 34 of the *Inferno*, where, in Judecca, "quite covered by the frozen sheet," and ceaselessly devoured by Satan, hang the ultimate traitors to sworn allegiance—Judas and Brutus and Cassius. For, whatever his defects—and Shakespeare does not minimize them—Caesar is the embodiment of legitimate authority, the source and guarantor of the order and stability of the state. He is, in

Elizabethan terms, the anointed king, God's vicar on earth, from whom flow the blessings of peace, justice, and security to his grateful people; and if we want to see the problem of power through Elizabethan eyes, we must not permit our vision to be blurred by our own political preconceptions. By his pride and arrogance, then, by his insistence that he can set his judgment above that of his ruler and try him and condemn him, by his vanity, by his susceptibility to flattery, by his obstinacy—all traits which Shakespeare is at pains to make clear again and again—Brutus murders Caesar and thereby destroys the continuity and stability of the state. Into the vacuum left by the death of Caesar pour hatred, jealousy, and betrayal, and from the Senate House of Rome death spreads in ever-widening circles to the utmost confines of the Empire.

The imminent dissolution of the then known world is the backdrop against which Antony and Cleopatra play out their passion, and it is in terms of the responsibilities of rule which this setting imposes on them that they are judged and found wanting. Four claimants to the authority that was Caesar's now confront each other: Lepidus, Pompey, Antony, and Octavius. Each is brought to the test of power and the first two fail quickly, Lepidus because he cannot raise his eyes above his ledgers, Pompey because he is a credulous fool. Antony and Octavius remain, and the very first lines of the play foretell Antony's inevitable failure:

Nay, but this ~~hostage~~ of our general's
O'erflows the measure. Those his goodly eyes,
That o'er the files and musters of the war
Have glow'd like plated Mars, now bend, now turn
The office and devotion of their view
Upon a tawny front; his captain's heart,
Which in the scuffles of great fights hath burst
The buckles on his breast, reneges all temper,
And is become the bellows and the fan
To cool a gipsy's lust. (I.i.1-10)

There is no one who does not share this opinion of Cleopatra. Even "the noble ruin of her magic" reviles her: "I found you as a morsel cold upon/ Dead Caesar's trencher." But Antony is besotted by the passion of his last love: "Come,/ Let's have one more gaudy night." The luxury of Egypt has corrupted the Roman virtues, and Octavius, that calculating and priggish youth looking down his nose at human weakness ("the wild disguise hath almost/ Antick'd us all"), so like Hal and Fortinbras, alone remains at the end to wield the power of Caesar. The peace of Augustus is about to heal an empire diseased by pride and passion.

But, as with *Lear*, the construction of *Julius Caesar* and *Antony and Cleopatra* is at variance with their content. *Julius Caesar* presents the strange spectacle of a conflict between a ghost representing an idea and a man of flesh and blood, for though Caesar is the protagonist of the play, his early death removes his physical presence from the stage and forces Brutus into the center of our interest. The result of this unsuccessful dramaturgic experiment is that for half the play the antagonist is able to claim and gain our sympathy; the belated appearance of Caesar's ghost cannot turn the flow of our increasing affection for Brutus; and the motifs of *Antony and Cleopatra* already dominate *Julius Caesar*. And if the last act of *Lear* disturbs us as intellectually unnecessary, what are we to say of the end of *Antony and Cleopatra* from Act IV, scene 14 on? Defeated by Cleopatra's betrayal, Antony seeks an honorable death, yet he can find no one to kill him. He attempts his own life and even here he fails, and, as he lies mortally wounded, he begs the guards to end his misery; they refuse. The sight of the great Antony, dying of a self-inflicted wound, crying in vain for release, is surely one of the most moving and most bitter scenes in all Shakespeare. Nor is this the end of his trial: he is deceived by Cleopatra once more, he is ignominiously hauled up to her tower, and even his last words are all but silenced by Cleopatra's false

lamentations. No wonder Caesar, on being informed of Antony's death, exclaims: "The breaking of so great a thing should make/ A greater crack." Yet, with Antony dead, the play continues for another act, an act which makes the death of Antony appear noble in comparison, which degrades both Cleopatra and Octavius, and makes a mockery of the promise of his forthcoming reign.

VI

The limitations of the subject of this paper prevent me from showing that the disintegration of the tragic pattern which we have seen take place in the major tragedies is paralleled in the three middle comedies, *Troilus and Cressida*, *All's Well That Ends Well*, and *Measure for Measure*, and comes to its culmination in the four last plays, *Pericles*, *Cymbeline*, *The Winter's Tale*, and *The Tempest*. Nevertheless, I think that the configuration of Shakespeare's thought was for the most part sympathetically conformable to the shape of the myth and ritual pattern. Yet having raised the pattern to the heights of its most moving and significant expression, Shakespeare was unable to hold it there for long. This does not mean that we must regard him as less than, say, Sophocles or Milton, neither of whom seems to have given way to doubt, nor does it mean that the myth and ritual pattern is inadequate either to its purposes or as a means of elucidating tragedy. On the contrary, the application of the pattern to Shakespeare's plays discriminates between them with nicety, it intensifies our awareness of the unique qualities of the individual plays, and it enables us to respond to Shakespeare on a most profound level of understanding. Recent critics of Shakespeare have enjoyed many a laugh at the expense of their predecessors who labored to box Shakespeare's plays under the neat labels "in the workshop," "in the world," "out of the depths," and "on the heights"—to use Dowden's terms—but I cannot see that they themselves have done any-

thing more than to say the same thing in perhaps more fashionable language. But the myth and ritual approach converts a Progress into a Calvary.

Shakespeare paid for the cost of the tragic vision by its loss. He looked long and directly into the face of evil. In the end, he shut his eyes. Writing of another artist who found himself in the same dilemma, Sir Kenneth Clark says: "The perfect union of Piero's forms, transcending calculation, rested on confidence in the harmony of creation; and at some point this confidence left him." As it seems to me, at some point Shakespeare too lost his confidence in the harmony of creation. I do not know when Shakespeare reached that point, but I think that it perhaps came at the moment of his greatest expression of faith in the harmony of creation, in *Othello* when he realized that he had left Iago standing alive on the stage. When in the bottommost circle of Hell, Virgil steps aside from Dante and reveals to him that creature fairest once of the sons of light: "Behold now Dis!", the poet is moved to cry out: "This was not life, and yet it was not death." So in the end Iago: "Demand me nothing; what you know, you know./ From this time forth I never will speak word." The rest is silence.

THE MEANING OF "THE UNITY OF SCIENCE"

Lewis K. Zerby

I

IF ONE IS attentive to language usage, he will already be aware that men sometimes use the word "science" as a general term to denote all of the so-called sciences in an indiscriminate lump sum. Our purpose here is to attempt to show in what sense we are justified in speaking of "science" in the singular and in what sense we need to talk about the "sciences."

Let me begin this analysis by distinguishing at least three ways in which science might be unified. First, the most ambitious sort of program for the unity of science would be the unification of all the *laws* of all the sciences into a single theoretical system. Such a unification of course has not been achieved, and it is highly doubtful whether it ever will be achieved. We have seen gratifying successes in some areas of science in discovering possible systematic unifications. Historically, Newton's unification of celestial and terrestrial mechanics into a single system was a major accomplishment in this direction. More recently we have had nuclear physics and atomic chemistry approach unification; and we are familiar with the basic scientific research being done in the area of bio-chemistry. Certainly unity of science in the sense of a unification of laws is an ideal all scientists work toward. Whether or not this ideal will ever be realized is not known and cannot be known at any given moment so long as we have an organic, living body of growing scientific knowledge.

But whether it is realizable or not, it is and always has been a directive ideal of great importance in science.

The second sort of unity of science is the unity of *method*. While it may be true that the laws of science are not unified, many people would want to argue that all of the sciences have a common method and that there is a unity of method where there is not a unity of laws. When people start writing about the method of science, almost anything can happen. It seems perfectly clear to most of us that there are as many methods of science as there are scientists, so that any description of *the* scientific method is going to be at best a very abstract and artificial sort of description. When we pay close attention to what scientists actually do (as contrasted with what speculative thinkers imagine they do or ought to do), we find that their procedures are so heterogeneous as to make us despair of ever finding a common and universal method.

It is true that all scientists base their findings on experience and observation; that they all make hypotheses and attempt to confirm them; that they all try to discover scientific laws. But until these facts are described more in detail and are given content by reference to particular situations in science, they neither define a method of science nor help us understand what the scientific enterprise amounts to. The fact that all scientists use experience, make hypotheses, and seek regularities hardly distinguishes science from the making of a family budget or the solving of a brain twister in a logic book. To say that the ornithologist, the nuclear physicist, the psychoanalyst, and the ophthalmologist use a common method is to stretch the term "method" so greatly as to render it for all practical purposes meaningless.

The conclusion I arrive at after this preliminary investigation is that there is no unity of science at present, so far as either laws or method is concerned.

However, there is a third and more hopeful meaning for the phrase "unity of science." This meaning would make the

unity depend not upon laws or method but upon *language*, which is the basis of understanding. I shall argue that in terms of the language of science there is a real unity which is not just an imaginary or possible ideal but an actual achievement. What must a language contain in order to be a scientific language? This is the central question to which we shall now address ourselves.

II

As I turn to this topic I should like to note at the outset that there is one area of science about which I shall say very little: this is the topic of formal science, of which, of course, mathematics is the most familiar example. The problem connected with the language of mathematics, and the relation between mathematics and empirical science, are so complex and difficult that they deserve more extensive examination than could be given in a short analysis. I am here concerned primarily with empirical sciences, the sciences which attempt to describe and explain the nature of the world of sensible experience. When we look at these sciences, we discover that each of such disciplines has in common with the others a use of terms, laws, and theories. And each discipline which uses terms, laws, and theories becomes a branch of the empirical sciences like botany, psychology, chemistry, or physics.

What is a "term," and when is a term a "scientific term"? A term is any word or other elemental expression (symbol, phrase, or picture) used to denote or to characterize something. All "scientific terms" refer either to observable properties and relations, or to abstract constructs which can be accounted for by their relation to observable terms, or to theoretical terms which provide a conceptual framework in the light of which scientific laws may be systematized. We also find that these terms are put into what are commonly called "scientific laws." Scientific laws all have the form of regularities or functional connections between scientific con-

cepts. These laws have a logical form of the general type "if *A* then *B*," and it is in the form of such laws that science is constructed.

In order to make our conception of a scientific term more concrete, let us consider the cell. What does the term "cell" mean to zoologists? Clearly zoologists know far more about this term than either the man on the street or the scientists concerned with non-living objects. To the man on the street the term "cell" means merely a small part of a living organism. Perhaps there is some notion that cells grow or join to other cells, that there is some sort of reproduction among them, and that when they function in a diseased manner, they form tumors. On the other hand, for the cytologist a cell is a very complex sort of thing with many different identifiable parts. And there are many sorts of cells, exhibiting strange and marvelous complexities. It is not our problem here nor our capacity to expound cytology, but only to call attention to the sort of knowledge of which science consists, and the sort of terms out of which it is composed. As a branch of zoology, the science of cytology observes, describes, classifies, notes regularities, and systematizes these observations, descriptions, classifications, and regularities in a scientific language. This language which all sciences share is what makes it possible to speak of the unity of science in a meaningful way.

But terms are only the bricks out of which the scientist constructs his house. We must put our terms into laws before we have the real beginnings of something that appears to be science. Laws in science are statements of uniformity or regularity between properly defined concepts. They all have a logical form similar to the pattern "if *A* then *B*." Now, scientific understanding is always understanding in terms of laws. To understand a scientific phenomenon is to see it as belonging to a system of laws. An obvious example in biology is the mechanism of heredity and its explanation in terms of such genetic laws as segregation, free-assortment, and linkage.

I need not go into detail about the nature of these laws but only point out that they represent the sort of understanding characteristic of all science.

Some terms in science, however, do not actually form parts of laws but are hatsacks on which the scientist can hang his laws, organizing them into systems of laws. *Laws*, as I have said, are composed of observable terms. *Theories*, however, are not so reducible. Consider terms like "atom," "electron," "wave theory of light." We find no possible reduction here to an observational basis or what is sometimes called a physicalistic verification basis. Consider for a moment the atomic model as a theoretical construct. The man on the street may well ask whether there really is such a thing as a Bohr atom. And he looks to the scientist to tell him. However, the scientist is puzzled by such questions and can answer them only when the word "real" has been clarified. Certainly atoms are not real in the same sense that betatrons are real, and yet they have a real place in the scheme of physics. Put more precisely, atoms do not correspond to sense observations in the way that physical things correspond, so that if such correspondence is a necessary qualification for reality, they may be called fictitious existential constructs. That is, they are things we talk about and imagine as we imagine and talk about tables and chairs, but they are not things we observe as we observe tables and chairs. In biology terms like "instinct" and "purpose" are often theoretical constructs. No biologist would imagine that the term "instinct" could occur *in* biology's laws, and yet, by thinking of animals as acting by instinct, we provide ourselves with a theoretical frame-of-reference within which interesting and important laws can be formulated. Likewise with purpose. The phenomenon of purpose in animal behavior can hardly be reduced to observation terms, but the notion of purpose makes possible a unification and a suggestion of new laws which are scientifically useful.

If my analysis of science is correct, then we find in all sciences observational terms, laws, and theoretical constructs. This provides for what I may call a unity of language among the sciences and represents the strongest case which can be made for calling the sciences unified and for speaking of science in the singular.

It is of great importance to recognize that this analysis defends no metaphysical thesis about the consequences of the unity of science for the nature of reality. Much of the struggle against attempts to unify science has been carried on by men who imagine that if physical science and social science can be unified, man and society will be reduced to the level of physical things. Such a metaphysical reduction is by no means a necessary consequence of the unity of science. Colors do not cease to be seen as colors when they are explained quantitatively in terms of wave lengths; sounds are still heard in spite of acoustics, and as far as I know even psychoanalysts fall in love and experience all of love's mystery, ecstasy, and pathos.

III

But now I must turn to the other side of the coin, and discuss various ways in which the sciences are divided, and ask in each case what the principle of division is, and whether in spite of the divisions we can still properly speak of the unity of science.

The most conspicuous division in science is the division between formal and empirical science.¹ Under the formal sciences fall such disciplines as mathematics, logic, uninterpreted geometry. In this area the most distinctive fact is that there are no empirical confirmations of laws. I have said that all scientists base their findings on experience and observation. In the case of formal science the observation has as

¹ For a more detailed discussion of the problem of the relation between formal and empirical sciences, see "Logical Positivism and Speculative Philosophy" by Henry S. Leonard, in *Philosophical Essays for Alfred North Whitehead* (New York, 1936), pp. 125-152.

its objects rules of formation and transformation rather than the customary sense-objects of scientists. Logical or formal laws are not confirmed by reference to the world of physics or other empirical sciences. Thus formal science, although it is a tool of great usefulness to empirical scientists, is not itself an empirical science. We shall then say of it only that it consists of symbols which form laws the truth of which depends upon the rules of the science. In an empirical science a law is confirmed by making reference to the world of sense experience. For example, if I want to confirm Boyle's law, I examine the actual relations between actual pressures and volumes of gases which are before me. I discover that as the volume increases the pressure decreases, and that as the volume decreases the pressure increases. On the other hand when I seek to "confirm" a logical law such as that A and B imply A , I do not examine the nature of the physical world, but rather I examine the rules of my logical calculus.

In order to illustrate the difference between a formal and empirical science let us examine the following example. Suppose we put down as symbols:

- Premise 1) fa
- Premise 2) $(x) (fx \supset gx)$
- 3) $(x) (fx \supset gx) \supset (fa \supset ga)$
- 4) $fa \supset ga$
- Conclusion 5) ga

In order to explain this example of an uninterpreted calculus, let us say that as formation rules we have the rule that expressions in the forms fx and $(x) (fx \supset gx)$ are sentences; let us further say that as a rule of derivation we have the rule that whenever we have $A \supset B$ and are given A , we can derive B , and that from $(x) (fx$ we can derive fa . Analogously from $(x) (fx \supset gx)$ we can derive $(fa \supset ga)$. With these as our ground rules we now play our game by first showing that each of the five expressions is a properly formed sentence; and

that three follows from two by the rule that $(x)fx \supset fa$; that four follows from two and three by the rule that given $A \supset B$ and A we can derive B ; and that five follows from one and four similarly. Thus far we have given no content to our symbols A , a , x , B , or \supset . Our first step then is to point out that (x) represents term variables, that f and g represent predicate variables, and that the sign \supset is a logical constant meaning "implies," and that a represents a term constant. By applying our calculus we can make two quite simple real arguments:

Me

$(x) (Mx \supset Ex)$

$(x) (Mx \supset Ex) \supset (Me \supset Ee)$

Me \supset *Ee*

$\therefore Ee.$

A particular electron e has mass. If anything has mass, then it has extension. If it is true that having mass implies having extension, then if e has mass, e is extended. If e has mass, then e has extension. Therefore, e has extension.

or,

Lt

$(x) (Lx \supset Cx)$

$(x) (Lx \supset Cx) \supset (Lt \supset Ct)$

Lt \supset *Ct*

$\therefore Ct.$

A particular thing t has life. If anything has life, then it is composed of cells. If it is true that having life implies having cells, then if t has life, t is composed of cells. If t has life, then t is composed of cells. Therefore, t is composed of cells.

One may put the matter this way. Formal science is an abstract system which makes explicit the structure of an empirical science, but it is not in itself a complete science. Thus while we may distinguish between formal and empirical science, we should not think of such a distinction as comparable

to that between physical and biological science, or between natural and social science. It is comparable rather to the difference between a blue print and an actual house.

IV

I turn now to a critical examination of some ways in which the sciences have sometimes been divided.

Physical science has been contrasted with biological science by such scientists as Johannes Reinke² because, it is argued, physical science is mechanistic in its laws while biological science is teleological in its laws. We are told that because the kinds of laws are different, the laws of biology cannot be reduced to the same language or the same interpretation of nature and reality as in the case of physical science. Certainly it is true that in biology many laws are expressed in what we call a teleological form or language. For example, one functional statement might be: "the function of chlorophyll in plants is to enable plants to perform photosynthesis"; another might be: "the function of fever is the killing of disease germs"; a third: "the purpose of the gastric juices is to aid digestion." If it were not possible to restate these teleological statements in a non-teleological form, then certainly the men who argue for teleological causation would seem to be correct. In this case it would appear that the biological sciences, in dealing with living matter, would necessarily use a different logical calculus because of a basic difference between living and non-living matter, and, furthermore, that this difference was one of purpose or intent which directed the

² "All lawful processes in nature occur with necessity.—Of biological necessity, we know two kinds: causal and final. Every biological process is determined by preceding events: this is causality. But such processes can also be determined by later conditions inasmuch as the preceding ones are indispensable preliminary stages for them: this is finalism.—While causal necessity characterizes all natural sciences alike, finalism prevails exclusively in the field of biology.—In the case of teleological phenomena, the essential conditions lie not in the past but in the future. They do not precede but follow. This is what distinguishes finalism from causality."—Quoted in Feigl and Brodbeck, *Readings in the Philosophy of Science* (New York: Appleton-Century-Crofts, 1953), p. 530.

course of living matter into a channel fundamentally different from that of inorganic matter. As it works out, however, one can restate these teleological statements in a mechanistic form. This time, instead of describing the law by stating the function of chlorophyll, fever, or gastric juices, one will start with a condition: "Chlorophyll is a condition for photosynthesis"; "fever is a condition for killing germs"; or "gastric juices is a condition for digestion."

Some persons will want to argue that we have left out something essential in our second formulation, but I would argue that whatever is omitted is metaphysical and poetic rather than scientific. In the teleological formulation the scientist starts with a tacit presumption which, however true it may or may not be, is not necessary to the advancement of the science. In scientific causality one observes only the regularity of the conjunction of the phenomena of photosynthesis and chlorophyll, gastric juices and digestion, fever and disease germs, but not the purposive function. It may be added that because people act with purposes we imagine nature acting purposively and feel that an explanation leaving out this purpose is somehow incomplete. But what is omitted is a subjective feeling about the matter which cannot itself be a part of the language of science, except in the theoretical sense which I have discussed earlier.

We are left, then, if I am not mistaken, with only one sort of law in science, and this is the law of the if-then sort which formulates regularities or uniformities in nature, whether organic or inorganic, living or not.

The second argument poses that the biological sciences are concerned with a life substance called an entelechy,³ and that this entelechy cannot be described in terms of observations.

³ Hans Driesch tells us that the entelechy is "a teleologically directing factor of nature. . . . There is nothing like it in the in-organic world." "Entelechy is not an energy, not a force, not an intensity, not a constant, but—entelechy." "Entelechy relates to space, thus belongs to nature; but entelechy is not *in* space—it acts not in space but *into* space."—Quoted in Feigl and Brodbeck, *Readings*, p. 533.

If I am correct in arguing that all of the basic empirical terms of science must be derived from observation, then obviously an entelechy is not a thing which can enter into the construction of a science.

But the question still remains as to whether or not a reduction of biology to physics is possible. If a physical theory could explain (or predict) all of those facts that the old biological theory could explain, plus the facts of physical science, then we would have a desirable economy in the theoretical vocabulary of science. We have already seen a great part of classical chemistry reduced to atomic physics, and also the classical theory of heat reduced to statistical mechanics; most scientists recognize this reduction as a scientific achievement. Thus the ideal of reducing biology to physics is understandable as something desirable, whether it can in fact be accomplished or not.

Thus there have been a number of attempts to formalize this process of reduction. I shall examine one of these to illustrate how the theories of biology and physics would look if biology were reduced to physics. Biology could be reduced to the terms of physics at any time that the two systems became mutually deducible. This would make the theoretical vocabularies of physics and of biology interchangeable or significant in terms of each other. It should be clear how far we are from any actual unification of biology and physics, because we are in no sense the possessors of bi-conditionals connecting all of the terms of biology with those of physics. The theoretical vocabulary of biology certainly contains terms which are not contained in the theoretical vocabulary of physics (e.g., cell and organism), so that there is not for every term in biology an equivalent term in physics. This should not be taken to mean that the reduction is in principle impossible: it is not an accomplished fact, but it is conceivably an accomplishable fact.

V

Still another way in which the sciences are sometimes divided is into natural science and social science, where social science is said to concern itself with values, so that it cannot be reduced to natural science, which concerns itself with observable facts. This division is based upon such a hornet's nest of confusions that I hesitate to suggest the subject at all, yet I feel this discussion would be incomplete without some reference to it.

There are three positions possible in the matter of natural science versus social science. First, one can argue that no science about men in society is possible, because man has free will whereas science presupposes determinism. Second, one can argue that it is possible to have a social science but that it is in principle different from natural science, because it concerns itself with values whereas natural science is value-free, and because social science has a special method of arriving at its knowledge—the method of empathy or *Verstehen*. Third, one can argue that social science and natural science are parts of a single scientific enterprise. In arguing in this last fashion we may well recognize, without giving any metaphysical arguments as to why this must be so, that social science is as yet in an embarrassingly primitive stage of development. Since the first argument so patently flies in the face of facts, we can dismiss it without further consideration. The third argument is primarily a matter of the unity of language among the sciences, which I have already discussed and to which I shall return after some consideration of the second position, namely, that social science is essentially different from natural science because it is concerned with values and because it has a unique methodology.

Obviously, a social scientist is concerned with values in two senses. First, as a human being he has certain personal values or interests which determine his areas of professional interest and research. But in this respect the social scientist

is in no different position from that of the physicist or chemist whose interests and values determine his areas of research, too. This concern with value, then, cannot separate the social and natural sciences. Second, our social scientist must be concerned with personal and social values as a subject for investigation. In this sense his subject matter *is* different from that of the natural scientist. However, it is possible to have value-free research about values. Those who argue that man cannot be objective in social science because he has personal and social values of his own might as well argue that a physicist cannot be objective about physics because the physicist is himself a physical being, or that the physiologist cannot be objective about the problem of digestion because he digests food. Was Kinsey objective in his research? The answer to this is of course to be found in an analysis of his research methods, data, and statistics, not in a consideration of his personal value-structure.

The social scientist must be value-free in carefully making his science objective and not a disguised piece of propaganda, and in distinguishing between scientific questions and policy questions; but to be value-free in these ways requires only logical analysis and presupposes nothing about the ultimate nature of reality. As for unique methodology, I have argued earlier that *all* sciences have different methodologies, so that methodological uniqueness can scarcely be used as an argument in favor of separating social science from natural science. The important thing is what can be done with the knowledge, no matter how it originates? If it can be put coherently into the language of the other sciences, it belongs in the body of scientific knowledge; if it cannot, it is not a different sort of science: it is not science at all.

VI

One of the most generally accepted divisions in science is the division between descriptive and moral science. We are

often told that science must stop at the boundaries of ethics, because ethics concerns what ought to be while science concerns what is. In order to examine the relation between ethics and science I shall examine the language of normative or ethical science and attempt to show that there is a far more intimate connection between descriptive and normative science than is often admitted. Furthermore it seems to me that moral science can profit greatly by being made to fit into a coherent pattern with descriptive science.

In order to begin our discussion of normative science, let me follow the path commonly followed by philosophers and make several distinctions. Human beliefs are factual or they are normative. Normative beliefs may be studied scientifically, moralistically, or ethically. Scientifically we may describe our own and other people's moral beliefs as factual occurrences. As such, these beliefs should be studied in the same way that we study other cultural phenomena. They can be classified and arranged into causal nexus; and predictions and explanations can be made about them. Such a study I would argue is as essential to a normative science as is the study of anatomy for medicine or mathematics for physics. And thus far we are still speaking the language which has been described in the beginning of this paper. The terms, laws, and theories are those we have been describing, although in the normative sciences they are on a very primitive level.

A second way in which normative beliefs are approached is moralistically. Here beliefs are not judged to be true or false but only good or bad in terms of some ethical belief held to be objectively valid. This moralistic approach is not only useless to normative sciences, but also it blocks the road to enquiry. If one were to proceed in descriptive science not by following the facts but by judging them in terms of some a priori system of science, we would have an end to descriptive science. Yet in normative science this is exactly what we have

been content to do. We have allowed medicine men and politicians to set up the principles of morality and then complained because progress is so slow in normative science—or having roundly declared that no progress is possible, we have become bohemians or butchers. Paradoxically, putting a beginning to a normative *science* is putting an end to *a priori morality*. In a sense, it was for taking a scientific attitude toward morality that Socrates was put to death.

Having discovered two modes of considering norms which do not lead to a normative science—namely by describing moral norms and moralizing about norms—I turn now to the sort of thing I do mean by normative science. And I shall argue that the language of this science and its use *in actual practice* is not basically different from the language of descriptive science.

Every person who acts in terms of beliefs acts on the basis of moral beliefs. Just as a community would be in a state of anarchy and would cease to be a community if there were not laws in it, so an individual who had no normative beliefs would cease to be a human individual. Thus I am not suggesting a kind of science which does not exist; but I do suggest the improvement of this science. As it is possible for a man to live in his physical world with only a very foggy notion about the science of physics, so it is possible for a man to exist in a normative world with only the foggiest notion about the nature of this world. The task I have set for myself here is not the task of *creating* a normative science but only of marking out certain *criteria* in terms of which such a science can be judged. It is in discussing these criteria that I shall try to show that the normative scientist might be benefited greatly by a study of the language of science as the basis for unifying, insofar as this is possible, normative and descriptive science. Before it is possible to arrive at proper terms, laws, and theories, a discipline must first achieve a clear, coherent, and applicable language of its own. Since

normative science does not at present have such a language, the three criteria I shall discuss here are clarity, coherence, and applicability.

The first criterion is clarity; for until the language of the normative scientist is used in a clear, unambiguous manner, it cannot be communicated; and one of the most elementary facts about science is that it must be intersubjective. The criterion of clarity can be satisfied in normative science in much the same way that it can be satisfied in descriptive science. A scientist's terms are clear if they are not ambiguous, if his terms have a syntax and semantics which are explicitly formulated and put into laws which are systematically related to each other. Normative science has reference to human behavior, and the meaning of its terms must be understood as they are related to human behavior. This is exactly analogous to the reduction of abstract words in empirical science to their observational basis. In the one case as in the other, if no reduction is possible, the term in question is meaningless. When one professes to live according to the principle "Thou shalt not kill!", the terms "thou," "shalt," and "not" are reasonably clear. But the term "kill" is not ordinarily explained with any degree of clarity. It is a vague word in that we know the general area of its application; but where its boundaries are, we do not know. Is shooting enemy soldiers killing? Is capital punishment killing? Is euthanasia killing?—or the slaughter of animals for food? The fact that we have trouble answering questions such as these indicates the unsatisfactory nature of this norm as a principle in a normative science. Imagine a physicist trying to use a concept in physics which was as vague as this. Obviously a term with vagueness is not acceptable to be made a part of the language of physics, and yet normative science is full of such terms as "kill."

It may be noticed that in each instance the behavior referred to by the term "killing" in the above questions refers

to a quite objective, inter-subjectively definable activity. I know quite clearly what it means to shoot enemy soldiers, to execute criminals, to practice euthanasia, and to slaughter animals. The vagueness of the word "kill" lies entirely in the limits we intend to assign to it. Within these limits, things are not difficult. Once one has determined to use ethical terms in such a way as to refer to human behavior, and when he avoids behavioristically meaningless terms, he sees that the problems of clarity in normative science are the same as the problems of clarity in physics. Moral philosophers have obfuscated this issue by insisting that ethical terms cannot be defined in terms of or reduced to descriptive terms, that they are indefinable if not ineffable. *My own point of view is that the problem of moral science is no more to define such terms as "duty" and "right" than it is the problem of physics to define "knowledge" and "truth."* Granted that the attempt to define "oughtness" is an interesting problem, as is the attempt to define "truth" in science, and that moral philosophers are properly concerned with it, nevertheless it is fortunate that normative science does not need to wait for or be built on this definition any more than physics needs to be built on the definition of truth. The normative scientist as contrasted with the normative metaphysician is not the least bit concerned with the question as to whether or not "oughtness" is definable. What he is concerned with is the beliefs, the norms men live or try to live according to. Here certainly the ethical terms can be and must be defined, and they must be defined in terms of human behavior, just as empirical terms in any science must be operationally defined. Normative science has been blocked long enough by speculative and absolutistic philosophers who have insisted that ethical questions are entirely outside of science and that science is of no help in answering them. My argument is simply that insofar as ethical philosophers are concerned with asking answerable questions, instead of proffering questionable an-

swers, science is not only of use but it is an absolute necessity. One looks forward to the time when the moralist who is uninformed about the facts of human behavior will be viewed in the same manner as we today view the man who looks into a crystal ball to determine the nature of the physical world. Humanity has long enough been in bondage to men who imagine that they can look within themselves and find there the nature of the entire moral world.

When we turn from clarity to coherence or consistency, we find that the consistency of the norms of a man or a society is not ordinarily the consistency of a logical system. The consistency of a normative system is a relatively simple practical consistency, a consistency of behavior. Two norms which command practically incompatible sorts of behavior cannot both be followed. Once the word "kill" has been clearly defined, I cannot follow both the command to kill and not to kill at the same time. I may of course historically kill during one part of my life and not kill during another part, but such a course either would presuppose a higher norm which determined on which occasions I should and on which I should not kill, or it indicates an inconsistency of behavior. While human beings can tolerate a certain amount of inconsistency in their behavior, scientists concerned with such things indicate that a common source of neuroses is inconsistency, that is, living according to incompatible norms.

But it is conceivable that a man might work out a normative science which would be entirely clear and consistent, and yet it could not be applied to the problems actually facing him. In this case his normative science would be defective in that it lacked applicability. Just as physics must make its laws correspond to the nature of things, so normative science must make its norms applicable to actual behavior. A rationalistic physics might be entirely clear and consistent, but if it did not apply to the actual world, we would not consider it a good physics. Likewise with a norma-

tive science: no matter how clear and consistent its norms may be, if they are not applicable to the real world, it is a poor science in normative as in descriptive matters.

VII

Perhaps my reader feels that I have been too formalistic, verbal, and dry; that philosophy should be vital, substantial, and entertaining. If this is the case, I am sorry and offer only a short apology. The sort of philosophy I represent respects knowledge, and as such respects science. My cohorts and I regret and indeed resent any attempt to circumscribe experience or knowledge, or to shackle science—or to substitute another sort of discipline in its place. And because I believe that the language of science is a vehicle for the unification of experience, I believe that this language is an indispensable tool in the solving of man's problems, and that its usefulness is the usefulness of reason itself.

As for the verbal nature of philosophy, I hold that it is the job of philosophy to make a verbal unity out of the diverse systems of belief that are offered to it. Each man in his lifetime speaks many languages and is confronted with a plethora of belief-systems. To take all of these belief-systems and to make a living mind out of them is the job of the philosopher. I do not believe that science is at present unified in any material sense, but I think it should work arduously in this direction. And I do not believe that men ordinarily have unified systems of belief, but I think they should work arduously toward such an ideal. For after all, the ultimate goal of philosophy and science—or for that matter any other cognitive endeavor—is neither fragmented information nor specialized knowledge, but universal understanding. Insofar as man achieves this understanding he is wise, and insofar as he is wise he will be beholden largely to the work of the scientist.

ECONOMIC ANALYSIS AND FARM AID

Norman F. Keiser

THE POLITICAL IMPORTANCE of agricultural policy in the United States is revealed by the fact that federal legislation in this field has been an outstanding issue in practically every election campaign since the end of World War I. In their fight to capture farm votes and to justify their legislative actions, both political parties have attempted to develop a pat set of explanations designed to rationalize special government aid to the farmer. In their search for justifications for farm aid they receive the willing help of the farmers themselves, the economists, and the various farm organizations. While many of the farmers, economists, politicians, and farm organizations differ in their proposed solutions to the "farm problem," they all tend to agree upon a common core of reasons *why* the farmer should be helped. It is the purpose of this paper to bring together and critically analyze the reasons usually set forth to justify farm aid.

High risks and uncertainties. One of the older explanations relied upon to justify farm aid is the contention that farming is a high-risk industry. Principally, the risks are caused by changes in weather conditions which may bring a drought or a bumper crop, the individual farmer's lack of knowledge concerning what other farmers are producing and his consequent inability to predict future supply trends, and his inability to predict future consumer preferences (and therefore prices). These conditions have been "time-honored" disadvantages of farming and do reflect the actual difficulties which the farmer encounters when he attempts to make his production decisions. As such they are not open to much

question. In fact, quite recently there have been outstanding occurrences in the South. Under the encouragement of the Department of Agriculture (which was interested in shifting many farms from a single cash-crop basis, cotton, to a more diversified basis), and because of relatively higher prices for pork, beef, and dairy products, many Southern farmers invested in the latter lines only to experience a recent decline not only in the value of their new products but also in the value of their original capital investment. Many of these farmers no doubt made great sacrifices and/or contracted large debts in order to diversify. Also important to this same group was the fact that they could not now switch back to their original cash crop (cotton) because they did not have the recent acreage history to qualify for acreage allotments. Typical of the Southerner who, had he been in possession of appropriate knowledge concerning these trends could have saved himself both money and headaches, is the farmer who testified as follows before a recent Congressional hearing:

Gentlemen, I own a general farm, consisting of 620 acres. At the present time 242 acres is in cropland, the balance of 378 acres being in woods, pasture, and wasteland.

In 1945 I planted 130 acres to cotton. In the next 5 years I cut the cotton on my place to 68 acres. I was trying to follow the directions of the Department of Agriculture and its different subordinate organizations to diversify my operation. Land taken out of cotton was put into feed and temporary pasture.

I tried building a beef herd at the time, but as the prices were high thought it best to grow into the beef business, selling any surplus feed I might have. Also I started with a few sows on a hog program.

The next few years, years without allotments, I continued to cut my cotton acreage. Land that had been in cotton was diverted to seed, pasture, and feed crops. Cattle market took its break, which cut the price I had been getting for calves approximately in half. The hog market was good, but due to a lack of rain very little corn was made on the place, making it

necessary to sell all my pigs as feeder pigs rather than feed them out. Found out that regardless of following recommended amounts of fertilizer, plants per acre, etc., water is the most important.

In 1954, a cotton allotment year, my cotton acreage was 35.6. This year I would have been cut again to approximately 18 acres. By going before the county committee, I was permitted to plant my last year's acreage. That, briefly, is the history of my farm for the past 10 years. I have a beef herd of 63 head of cows and heifers, and a swine herd of 43 head. I have feed for my cattle and sows, but cannot feed calves or pigs to a finish.

I have followed, these past 10 years, about all the recommendations made by the various agencies. I have cut my cotton acreage when they asked and in turn have been cut more in allotment years. It is almost impossible for me to continue operating a farm of this size on 36 acres of cotton. My tenants make a bare living off their part of the cotton, and I cannot meet my obligations with my one-half. Every crop I have planted or raised has continued to go down while cost of production keeps going up. My equipment needs replacing, but will have to be used several more years.

I hope that the committee will give farms which have followed the Department's directions and suggestions some relief. I hope also that they will find some means of disposing of the crops that we raise.¹

Unstable prices. It has been argued that prices do a "rough-and-ready" job of guiding the decisions of producers and of allocating the consumption of goods, but it has also been pointed out that prices may be inaccurate (perhaps even deceptive in the case of farm products) guides to production, and without supports are likely to be highly unstable.² These factors may in turn result in an allocation of resources out of balance with demand conditions. From the standpoint

¹ U.S. Congress, House, *Family-Size Farms*, Hearings before the Sub-committee on Family Farms of the Committee on Agriculture, 84th Cong., 1st Sess. (October 7, 8, 10, 11, 18, 1955), (Washington: Government Printing Office, 1956), p. 287.

² Geoffrey S. Shepherd, *Agricultural Price Policy* (2d ed., Ames, Iowa: Iowa State College Press, 1947), pp. 275-76; Oscar Heline and Donald R. Kaldor, *A Framework for Long Range Agricultural Policy*, National Planning Association Pamphlet No. 72 (July, 1950).

of the individual farmer, then, open market prices may be quite inaccurate guides to his production decisions, especially when both he and other farmers interpret a currently high-priced product as a good planting prospect for the forthcoming marketing season. What was underproduction for one year may be followed by overproduction and low farm incomes in the next year.

While there are significant variations in the prices of individual farm products during short-run periods, there are also significant changes in the general price level of all agricultural products over the longer periods. During the business cycle, for instance, there is a considerably larger percentage variation in agricultural *prices* than in industrial prices. On the other hand, there is a much greater percentage change in industrial than in agricultural *production*. Business fluctuations, then, are characterized by a price rather than a production cycle in agriculture, in contrast to a production instead of a price cycle in industry. Industry is able to reduce production in line with a reduced demand and therefore maintain its prices. Farmers, however, cannot so easily discharge their fixed costs (as industry can labor, raw materials, etc.), nor can they control their production; the reduced demand therefore takes the form of reduced prices for farm products. From a social-welfare standpoint a price cycle is probably less undesirable than a production cycle.

These variations can be easily and simply illustrated by citing a few statistics. From 1929 to 1932 agricultural production changed only from an index of 99 to 96 while industrial output fell from 110 to 58. From 1937 to 1938, when another slump in the economy occurred, agricultural production merely slid from 106 to 103 (yields were down) compared to a drop from 113 to 50 for industry. During the 1924-1929 boom, industrial output rose from 82 to 110 while agricultural production moved only from 98 to 99. From 1933 to 1937 the index of agricultural production rose

from 96 to 106 (with very high yields in 1937), while industry jumped from 69 to 113.³

The point becomes even more obvious when one examines the average price received by farmers for hogs (to take one example) for a 30 year period.⁴

1924	\$7.34	1942	\$13.04
1926	11.79	1947	24.10
1932	3.34	1949	18.10
1936	9.37	1953	23.00
1939	6.23		

The percentage change in price within a short period of time was often exceedingly high.

While lower agricultural income is a function of lower prices for farm products, in turn caused either by reduced output and unemployment in other sectors of the economy or by overproduction, per capita farm incomes are also somewhat further reduced as long as these circumstances prevail. During prosperous periods farm people (especially the youth) move to the cities to take advantage of existing industrial opportunities. This is true in spite of the fact that agricultural prices are also higher. When a recession sets in, however, the normal farm-to-city movement is somewhat negated by a "back-to-the-farm" movement, which means that the reduced share of the national income going to the farm population is divided among more people.

Atomistic market structure. A third factor offered as justification for farm aid concerns the type of economic organization found in agriculture. It is generally maintained by economists that, aside from a few organizations (such as the California Fruit Growers' Association) and excepting government aid, agriculture more closely approaches the competitive model than any other major industry in our economy. The

³ Theodore W. Shultz, *Agriculture in an Unstable Economy* (New York, 1945), p. 129.

⁴ Willis R. Knight, "Agriculture," in Walter Adams, ed., *The Structure of American Industry* (New York: Macmillan, 1954), p. 11.

economic definition of a pure competitive industry calls for the existence of (1) many sellers, (2) small sellers, (3) easy entry, and (4) a standardized product. This is admittedly an abbreviated definition, but with respect to most farm products (potatoes, for example) we find that all these conditions prevail—there are thousands of producers; they are in many cases small producers; they produce a standardized product (within the range of type differentials); and entry, at least on a comparative basis, is relatively easy. It is true, of course, that in the production of many agricultural products there is not always easy entry; the initial costs of land, buildings, equipment, and stock may be quite prohibitive (though still not as high as that required for most industries), and since some crops have acreage allotments to contend with, there are legal as well as financial limitations upon entry. But in contrast to the type of economic organization found in agriculture, compare the number of suppliers one finds in the production of such articles as automobiles, steel, appliances, aluminum, nickel, tires, typewriters, and plate glass. The significance of such competitive characteristics in agriculture arises from the fact that these conditions make it very difficult for farmers to cooperate as a group in the solution of their common problems, though in certain areas (the fluid milk industry, for example, or the California "Sunkist" products) where farmers have been able to attack cooperatively some of their problems (marketing in particular), the results have been quite rewarding.

Technological change and its repercussions. As in such other economic areas as manufacturing, transportation, and communication, agriculture has been experiencing a revolution in its production techniques. But expansion in agricultural output has not been as rapid as that in other major industries; according to Theodore Schultz,⁵ agriculture, be-

⁵ *Production and Welfare of Agriculture* (New York: MacMillan, 1949), p. 105.

tween 1900 and 1939, increased its output only 60%, in contrast to mining, which saw an increase of 240%, manufacturing an increase of 267%, and public utilities an increase of 310%. Further increases in agricultural production must wait for such technological developments as the increased use of mechanical power and the mechanization of each phase of agricultural production; the increased use of tractors, lime, commercial fertilizers, and conservation practices; the development of new varieties of crops; more efficient and effective pest control; and improved animal breeding and livestock control.

Nevertheless there have been significant changes in the production techniques used in agriculture. This has been particularly evident in the tremendous increase in productivity per man hour in agriculture, and the fact that we need fewer and fewer people to produce agricultural products in spite of a rapidly expanding population. Many farmers, however, have not expanded their productive units at a pace rapid enough to keep up with the technological changes. The result has been the development of a situation in which 50% of the farmers produce 90% of the farm products marketed, and the upper 20% of farm families receive 49% of the total farm incomes.⁶ Another result of the failure of some farmers to keep pace with technological progress is underemployment and an excess of human resources on the farms.

A further important aspect of this technological change is the increasing amount of specialization taking place on the farm, an aspect which is parallel to industrial and labor specialization. At one time the farmer's production goal was primarily the satisfaction of his and his family's needs, which meant that he had a greater degree of control over his own economic fate. But once the farmer switches from

⁶ L. H. Bean, "Are Farmers Getting Too Much?" *The Review of Economics and Statistics*, XXXIV (August, 1952), p. 252.

a self-sufficient type of production to a specialized type of production, his economic fate is no longer dependent solely upon his own and his family's productive efforts but rather upon the decisions of other people in the economy. He is no longer producing primarily for himself but rather for a market. He is therefore dependent upon that market to dispose of his goods. Hence his submission to commercialization has made him subject to the displeasures of general economic fluctuations and has further increased the factor of interdependence in our total economy.

For this reason the farmers who have kept up with the technological changes and who have taken advantage of the research which has been available from the various agricultural experiment stations have in general had a decided advantage over those farmers who have not. In this same context, however, it should be noted that technological innovations have not always worked to the advantage of the farmers. In general, technological advances have wrought great advantage to society at large but have often played havoc with farmer incomes. Significant increases in the production of certain crops (potatoes, cotton, or wheat, for example) without a proportional increase in demand lowers prices for consumers but also lowers farmers' total revenue. Under inelastic demand conditions, then, increased production results in decreased total revenue for the farmer.

High production and other costs. One has only to look at the trend of the general price level to see how the costs of the things which farmers buy have been going up, particularly since 1946, while the price of farm products has been declining since 1951. As far as the farmer is concerned, there have been significant increases in the cost of land, labor, machinery, buildings and other farm materials, homes, household furnishings, appliances, clothing, education, and other items. Complaints that the farmers must pay higher

prices for the products they buy have long been used as a rationalization for farm aid. They are still to be heard in recent Congressional hearings.

Low farm incomes. In 1947 the average income before taxes for non-farm families was \$4,780, while that for farm families was \$3,510. The per capita income figures (\$1,340 as compared to \$870⁷) were even more significant, and the differential for the year 1954 (\$1,838 and \$913 respectively⁸) was even sharper. In 1945 there were in the gross income category of \$400-1,499 some 2,012,000 farm families. Approximately half of these individuals were classified as under-employed, that is, without important sources of off-farm income.⁹

It is extremely interesting to note that while the factor of low farm income (especially the "average" figure) is used to justify aid to farmers in general, the type of farm legislation passed by Congress has really done very little for the lower income farmers. The two or so million farm families with low incomes probably bring down the "average" farm income figure significantly. Their incomes, in other words, are in all probability the incomes which "prove" how poor the "average" farmer is. But the type of farm aid legislation passed does extremely little for these people. In fact, under price maintenance legislation, the benefits accruing to a farmer are in direct proportion to the size of his farm and the amount that he markets. Price maintenance legislation therefore pays off for the large farmers but not for the small ones. Probably the reason why more has not been done for the smaller subsistence farmers is that those people

⁷ U. S. Department of Commerce, *Income Distribution in the United States* (Washington, D. C.: Government Printing Office, 1953), pp. 13-16. These figures excluded all unattached individuals.

⁸ John D. Black, "Agriculture in the Nation's Economy," *American Economic Review*, XLVI (March, 1956), p. 27.

⁹ U. S. Congress, Joint Committee on the Economic Report, *Underemployment of Rural Families*, 82d Cong., 1st Sess. (Washington, D. C.: Government Printing Office, 1951), pp. 13-14.

do not possess sufficient political power to see to it that beneficial legislation is passed, nor do they have the economic means to effectuate such power or legislation.

Excess human resources. A further factor set forth to substantiate farm aid, and closely related to previously cited factors, concerns the surplus labor found on the farms. There is on many farms what the economists and sociologists refer to as "underemployment"—i.e., there is not enough work on the farm to keep its occupants profitably employed on a full-time basis. This condition has been attributed to certain technological factors such as a lack of capital equipment and livestock, to the fact that too many farms are so small that the land-to-man ratio is out of balance, and to the higher birth rate in most rural areas.¹⁰ It has been estimated that between a million and a million and a half people should be moved off the farms in the South in order to have the proper land-to-man ratio.¹¹

Small farm units and poor managerial practices. Statistics previously cited have indicated that there are a large number of farms, particularly in the South, which are just too small to enable the occupants to earn decent incomes. There is not enough land either to provide a respectable standard of living from these farms or to justify the use of mechanized production practices. On many of these same farms the operation of the farm is further hindered by poor managerial practices. A sample survey of farm operators of cotton farms in the Piedmont of South Carolina and Georgia showed that

¹⁰ The fact that there is a higher birth rate in most rural areas is also sometimes used as a justification for farm aid, the reasoning being that those who supply the urban areas with youth (the urban areas do not usually replace themselves population-wise) should be duly compensated for this desirable social function which they serve. The same line of reasoning could be used, however, to justify aid to urban families to encourage them to raise more children.

¹¹ D. Gale Johnson, "Coming Developments in Agricultural Policy," *Journal of Farm Economics*, XXXIV (December, 1952), 616-24.

only 8% had any agricultural training.¹² Appropriate training for farm work becomes even more significant when one notes that the future developments in agriculture will be primarily of a scientific, mechanical, and technological nature.

Poor credit facilities. Another factor makes the plight of the small, subsistence farmer an even more difficult one. While many of these small farmers operate productive units which are too small to provide adequate incomes for them and their families, they also lack access to credit which could be used to expand the farm size, construct farm buildings, purchase machinery, or otherwise realize or improve the productive potentiality of their units. An analysis of the hearings recently held by the House Subcommittte on Family Farms reveals that requests from farmers for better credit facilities ranked third in importance. Specifically, there is a need for long-term and low-interest loans on machinery, land, and housing; for smaller down payments; for more lenient terms to younger farmers; and for provisions for loans for part-time farmers (who are ineligible for loans from the Farmers Home Administration even though they were originally farmers but were forced to take part-time city jobs).

Low educational and health standards. For the years 1947-1948 the "total current expenditure per pupil in average daily attendance" for rural areas was \$173, while that for urban areas (2500 and over) was \$206. Moreover, it should be noted that two factors serve to make this differential even greater: (1) the fact that the rapidly growing suburban areas were included in the rural statistics even though they are more urban than rural; and (2) the fact that the data was based on only 36 states, those twelve which were excluded being more "rural in character than the average"

¹² John L. Fulmer, *Agricultural Progress in the Cotton Belt Since 1920* (Chapel Hill: University of North Carolina Press, 1950), p. 183.

and having an average expenditure figure of \$151. In still other significant ways rural education is inferior to that of urban areas. In some rural areas we still have the one-room school, a shorter school term (by about 6%), lower teachers' salaries (by about 34%), and only scattered opportunities for children to attend kindergarten.¹³

Very few studies are available concerning differences in the health of rural and urban people, and many of those are either quite old or of limited reliability. The general conclusion seems to be, however, that "although the data are far from satisfactory, the health status of the rural population seems somewhat superior to that of the urban." Data on the supply of rural physicians, hospitals, and medical facilities in general have a much higher reliability, and the facts indicate that in all these categories the rural family occupies a much inferior position. Not only are there fewer rural doctors (one to 1,700 people as compared to one to 650 for urban areas in the immediate pre-World War II period), but many of these doctors are well beyond their prime and have a more extensive geographical area to cover. In addition, the supply of hospitals and other medical services is considerably below that of urban areas.¹⁴

The basic industry. One often hears the argument that agriculture is the basic industry, that agriculture is the cornerstone of the American business and economic structure, that the fate of the farmer determines the fate of the rest of the economy, that the prosperity of the nation is directly dependent upon the prosperity of the farmer, and that we just cannot afford to allow the farm population to suffer an income loss. Such arguments are generally referred to as "agricultural fundamentalism," and for the most part they

¹³ J. F. Dewhurst and Associates, *America's Needs and Resources* (New York: The Twentieth Century Fund, 1955), pp. 389-93.

¹⁴ T. Lynn Smith, *The Sociology of Rural Life* (3rd ed., New York: Harper and Bros., 1953), pp. 102-11.

are refuted by our leading agricultural economists.¹⁵ This is not to say that agriculture does not play an important role in our economy; quite definitely there are certain industries which are highly dependent upon farmers as their customers, and there are many cities whose trade is mostly with the farm population. In such cases when farm income is down there are repercussions in other areas of the economy. This, however, is much different from arguing that it is the farmer who determines our economic fate. In addition, the theory of agricultural fundamentalism completely neglects the importance of such factors in the initiation or termination of a period of prosperity as innovations, wars, changes in consumption and investment, or fiscal and monetary policies.

Just what is the role of agriculture in our economy? Actually agriculture is what we might call a "declining industry." History reveals a trend, most conspicuous in countries of more advanced standards of living, toward a smaller place for agriculture in national economies. Although this trend has been developing for some time, it has been especially conspicuous since 1850 and is the obverse of the expansion of commerce and industry. One scholar has gone so far as to state that "as a law of economic history . . . economic progress, broadly viewed, tends to be accompanied by a decline in the relative importance of agriculture."¹⁶ In the United States this is true not only in the relative but also in the absolute sense. In the absolute sense it takes less and less human effort to produce the increasing volume of food required by a prosperous and expanding economy. It is interesting to note that the declining importance of agricul-

¹⁵ For a very recent statement see *Family-Size Farms*, pp. 82-84: "Those are the reasons why, when agriculture fails, all fail. Every depression has been farm fed." For refutations of this line of reasoning see Joseph S. Davis, "Agricultural Fundamentalism," in Norman S. Himes, ed., *Economics, Sociology and the Modern World* (Cambridge, Mass., 1935); reprinted in Oscar B. Jesness, ed., *Readings in Agricultural Policy* (Philadelphia: Blakiston Co., 1949), p. 5; and Black, as cited in note 8 above.

¹⁶ Davis, *op. cit.*, p. 5.

ture has also been recognized in the older industrial countries of Europe, in some of the largely agricultural countries, and in some parts of the Orient.¹⁷

Most of us are somewhat surprised when we look at statistics concerning the per cent of our population, labor force, and productive assets engaged in agricultural pursuits, or the amount of our national income, of the net and gross national product going to agriculture. These figures are especially significant when examined on a comparative basis. In 1910 34.7% of our population and 31.1% of our total labor force was engaged in agriculture, and agriculture accounted for 42.3% of our productive assets, 14.1% of our national income, and 18% of our net national product. But forty-four years later, in 1954, only 13.5% of our population and 10.1% of our labor force were engaged in agriculture, and agriculture accounted for only 23% of our productive assets, 5.3% of our national income, and 5% of our net national product.¹⁸ In short, agriculture is not nearly as important in the nation's economy as many of us had thought, or as it once was when our economy was primarily agricultural rather than industrial.

"Everyone else gets subsidized and so should the farmer." It is quite true that the farmers are singled out as particular subjects for attack on the basis that they are receiving too much money from the public treasury. But many individuals forget, or just do not have any idea, how much money is paid out in subsidies to business and labor; nor are they generally aware of the fact that the amount received by business runs into considerably greater amounts than that paid out to agriculture. One breakdown of the federal budget for the year 1949, for example, showed that expenditures for "direct aid" to agriculture totaled \$341 million while the amount going to business was \$773 million and to labor \$175 million. The largest subsidy to business was \$437 mil-

¹⁷ Schultz, as cited in note 5, p. 87.

¹⁸ Black, as cited in note 8, p. 24.

lion allocated to the Post Office Department. While most private individuals receive benefits from the latter subsidy, the major benefits were received by private businesses such as transportation (air, water, and rail), the mail order houses, and the publishing business. The shipping industry in the year 1949 received, for the purpose of enabling it to compete with foreign lines, a direct subsidy of \$188 million. In the same year the air industry received over \$30 million for carrying airmail, other direct subsidies of over \$107 million, and other defense aids. Further subsidies to urban areas include various grants for public housing and slum clearance purposes. Over and above these subsidies, it has been disclosed that as of June, 1949, the War Assets Administration disposed of war assets worth originally more than \$15 billion to private business for slightly over \$4 billion. The records also show that other large war plants have been leased to private business concerns for as little as one per cent annually.¹⁹ In the year 1953 subsidies to farmers amounted to \$523 million, to business \$1,216 million.²⁰ It has been further pointed out that during and just after World War II industry received special tax considerations, was granted "billions of dollars for reconversion" purposes, and was protected from the competition of surplus war and defense materials. Many of these "expenses" were charged off to the war program, while agricultural surpluses resulting from government policies were charged to the "farm program."

The impact of these circumstances has been well summarized as follows:

Agriculture was geared by Government policy to meet a worldwide threat of communism. The same was true of industry. But industry has operated on a cost-plus contract basis, enjoying guaranteed profits on Government business; it has received special tax considerations; and was awarded billions

¹⁹ D. E. Hathaway, Arthur Mauch, and D. B. Varner, "Income—Living Government Aid! How Does the Farmer Rate?" *Open Meetings on Agricultural Policy*, No. 12 (East Lansing: Michigan State College, Department of Agricultural Economics, 1950), p. 3.

²⁰ *Family-Size Farms*, p. 270.

of dollars for reconversion from emergency production. Industry has been protected against the competition of surplus war and defense material. Trucks and cars, and other Government-owned industrial surplus goods have been kept off the normal competitive markets. Industrial war plants have been recognized as surplusage, and charged off to war. Conversely, farmers have been forced to carry a large burden of their costly changeover to more normal production. The presence of the abundant stores of food and fiber, produced in farm operations attuned to emergency, has depressed farmers' prices and has caused severe hardships by cutbacks in crops in the effort, approved by farmers in their own elections, to eliminate the surpluses. The costs of price supports on these stored commodities are charged to the farm program, and not to war or defense, as in the case of industry's production of guns, planes, and the vast number of other items that never were used in combat or moved up to a firing line.

Thus protected, and in an expanding economy, industry is prosperous; thus unprotected, despite the expanding economy, agriculture is moving into a deepening recession.²¹

These are easily forgotten or often overlooked facts. But to look at the other side of the coin, it should be noted that aid to the farmer has not been a recent development, that in fact, the farmer has been the willing recipient of sizeable subsidies for the last century or so. He has demanded that the various levels of government provide him with adequate shipping, railroad and highway access to markets, the regulation of railroad rates, "cheap money," easy credit, monopoly control, export subsidies, tariff protection, and finally price and income supports.²² The farmer, even as a frontiersman, has not always been the rugged individualist that he has been pictured.²³

²¹ Subcommittee on Family Farms of the House Committee on Agriculture, *First Interim Report*, 84th Cong. (Washington, D. C.: Government Printing Office, 1956), p. 8.

²² George A. Steiner, *Government's Role in Economic Life* (New York: McGraw-Hill, 1953), p. 134.

²³ For a highly amusing presentation of "subsidies to all" (using recent statistics) see Fletcher Knebel, "The Welfare State is Here to Stay," *Look*, January 25, 1955.

Economic organization as a type of government aid. Further justification for farm aid follows from the type of economic organization which is found in agriculture. It is argued that while industry has organized itself along concentrated lines, and while labor has received special aid to strengthen its bargaining position, farming has retained many competitive characteristics, and farmers therefore find it exceedingly difficult to organize to further their own economic interests. Examples can be given of what can be called a "unique" type of government aid—an aid which does not represent an outright monetary payment by the government, but which does result in increased returns (often quite substantial) to the firms involved. Perhaps the two best examples of such aid are the Miller-Tydings Act and the Robinson-Patman Act.

The Miller-Tydings Act, passed in 1937 and amended in 1952, legalized "contracts or agreements prescribing minimum prices for the resale of a commodity which bears . . . the trademark, brand, or name of the producer or distributor of such commodity and which is in free and open competition with commodities of the same general class produced or distributed by others" regardless of whether or not the seller had signed a contract with the supplier. (There also has to be a state law permitting the same.) While the law attempted to eliminate destructive price competition and the "loss leader" sales which hit the stores that dealt solely in the "loss leader" items, it actually went much further than this. The law effectively eliminates all types of competitive price-cutting, thereby insulating the market position of those in the traditional system of distribution—the independent wholesaler and retailer. It also goes a long way towards effectively checking the more efficient large-scale distributor. Furthermore, price competition is supplanted by sales promotion schemes and advertising, and producers gain additional controls over the market. It is significant to note that a great

number of the so-called branded items were produced in imperfectly competitive (especially monopolistically competitive) markets.

Parallel to the Miller-Tydings Act, the Robinson-Patman Act, passed in 1936 and commonly referred to as the "Anti-Chain-Store" Act, was aimed at the elimination of special price concessions secured by large but not small distributors. Specifically, the act made illegal the granting of "any discount, rebate, allowance, or advertising service charge" to one and not other purchasers, and the selling of goods at unreasonably low prices for the purpose of eliminating a competitor. The smaller, independent wholesalers and retailers were losing out to the larger chain stores who, because of their great size and bargaining power, were in a position to force price concessions from producers. This in turn made it possible for the chains to undersell and therefore eliminate the independents. (Under the act, price concessions are permissible when they can be justified on the basis of cost differentials resulting from differences in the cost of manufacturing, handling, selling or delivering quantities of goods.)²⁴

For the present purpose the significance of the Robinson-Patman and Miller-Tydings Acts lies in the fact that outright legislative protection was granted to certain economic groups who were organized somewhat along atomistic lines. But there is another and probably equally important type of government aid to large-scale, non-farm businesses—what we might label aid "by default." Or as others have stated essentially the same idea—the antitrust laws have been "little more than a 'policeman looking the other way'."²⁵ The Ameri-

²⁴ For competent elaborations on these points consult Harry L. Purdy, Martin L. Lindahl, and William A. Carter, *Corporate Concentration and Public Policy* (New York: Prentice-Hall, 1950), pp. 445-54, 438-40; Melvin Anshen and Francis D. Wormuth, *Private Enterprise and Public Policy* (New York: Macmillan, 1954), pp. 106-109, 122-23; Walter Adams and Horace M. Gray, *Monopoly in America* (New York: Macmillan, 1955), *passim*.

²⁵ Adams and Gray, *op. cit.*, p. vii.

can economic *ideology* places the highest value on the competitive, free-market type of economic organization. While the free market provides for economic freedom on the part of each individual and a minimum amount of governmental intervention, it also demands as a part of this whole scheme markets in which there will be real competition. This in turn calls for many small sellers (and buyers), a standardized product, and "easy entry" into the various productive areas. Actually, as previously mentioned, the American economy is not organized along such lines. Instead, most of our major industries are organized along monopolistic lines (using the term in its broader sense). While we have seen fit to pass the Sherman, Clayton and other acts to re-establish competition in many areas of the American economy, we can safely say that not too much has been accomplished, nor does it seem likely that any administration of either party is likely to go through our economy and break up our large industries in order to establish competition. The government (with some apparent sanction from the American society) has enabled many industrial giants to become even greater giants merely by turning its head the other way. Hence the question may well be asked: In what ways, in terms of economic organization, do these acts differ significantly from the unique types of government aid granted the agricultural sector of our economy? Or put in a more negative sense: Why should the farmer be encouraged to practice perfect competition when other groups in the economy are not only allowed (by virtue of governmental indifference) to organize along monopolistic lines, but are actually encouraged and given legal sanction to engage in certain monopolistic practices?

*The spiritual, political, and economic values of the family farm.*²⁶ One often hears the argument presented that "those

²⁶ I have treated this topic more fully in "An Analysis of the Hearings of the New House Subcommittee on Family-Size Farms," *Journal of Farm Economics* (November, 1956).

more important values" in the American ideology—Christianity, democracy, and free enterprise—have their roots in the family farm. A recent manifestation of such assertions, in which the authors maintained or hinted that the family farm has been the source of all these values, is to be found in a report of the House Subcommittee on Family Farms. In various places in the report we find such statements as: "the family farm [has] established the economic foundation for the liberties and the enterprise . . . that are the heritage of the United States"; "beyond all other notice and regard, the agricultural order in the family unit must be considered especially for the spiritual, social, and political vitality it has contributed to our civilization"; "the free enterprise system grew out of an early dream of a nation sustained chiefly by and for devout, free, independent, and home-owning farmers"; "free enterprise is the spirit of the frontier."²⁷ Such statements serve to illustrate the importance attributed to the family farm by many groups in our society, and in many cases the obvious intent of such groups is the social and economic perpetuation of the family farm.

There is yet to be offered any substantial analysis of these values attributed to the family farm. Thus far, conclusive evidence is lacking that democratic and Christian values, as well as the *laissez-faire* economic system, are derived from the family farm. Such claims made for the family farm fail to recognize: (1) that many of these values have deep historical roots, and (2) that certain urban groups also have a role in the development and perpetuation of democratic tendencies. Arthur M. Schlesinger, Jr., for instance, has advanced just the opposite thesis relative to the rise of many of our democratic tendencies—that these democratic tendencies had strong roots in urban areas of the East rather than on the family farms of the South and the West.²⁸ The argument that the family farm is an indispensable agent in

²⁷ *First Interim Report*, pp. 1-3.

²⁸ *The Age of Jackson* (Boston: Little, Brown, 1946).

the development or perpetuation of democracy can be further challenged on the ground that in many areas where there are or have been family farms, democratic government either does not exist or has not been outstandingly successful (as in France). Furthermore, one can cite examples showing that in some places in the world (such as England) democratic governments (and free enterprise) have developed in spite of a predominantly urban form of socio-economic organization and in spite of a paucity of small family farms.²⁹

Moreover, even though we might grant that the family farm has and still does contribute *substantially* to the realization of such values, we can also point out that in its present social setting in many areas of the country, the family farm is characterized by conditions that contradict others of our very important social values—notably inferior educational and health facilities and very low incomes and standards of living. And it is extremely interesting to note in this particular context that while some individuals credit the family farm as being the source of the free enterprise system, these same individuals also decry certain shortcomings of the competitive system. Considerable concern, for instance, has been expressed over the fact that "farm families are leaving the soil because of the deterioration of their competitive system."³⁰ In many ways *laissez-faire* economic theory has been fulfilled (even justified in the eyes of some individuals) by what has happened to the farm sector of our economy, though not all economists have been satisfied with the lack of proper allocation of resources between agriculture and the rest of the economy, with the attendant labor surplus and consequent low returns. What has happened very often has not been so much the deterioration of the competitive system but rather the realization of it. The smaller family farm in many cases has been, or is being, driven out of pro-

²⁹ A. Whitney Griswold, *Farming and Democracy* (New Haven: Yale University Press, 1952).

³⁰ *First Interim Report*, p. 1.

duction simply because it cannot compete mechanically or financially with the larger farms. The required size of the family farm as an efficient and profitable economic unit has increased, but the size of many existing (or, more accurately, subsisting) family farms has not increased accordingly. Nor is one to assume that the farmer wants a competitive system, for the very fact that he attempts to secure and accepts government aid negates one of the basic tenets of free enterprise—an absence or an absolute minimum of state intervention in the economy.

The Farm Bloc in Congress. In this paper we have been primarily concerned with reasons generally set forth to justify farm aid. There is, however, an additional factor which, while not a "rationalization or justification" for farm aid, still has considerable bearing on the problem of *why* the farmer receives aid. This very important factor concerns the role of the farmer in the political process. In the political sense farmers receive aid for two main reasons: first, they possess the political strength necessary to effectuate legislative action, and second, other political groups and our political leaders are impressed by expediency or sincerity with the farmer's value in our society and the farmer's demand for a more equitable share of our national income. Put in other terms, the agricultural segments of our population are overrepresented in our state legislatures and in the United States Congress, and for this reason, if for no other, the power of the Farm Bloc in Congress should never be underestimated.

Standing alone the Farm Bloc commands an impressive amount of power in the Congress; and when it bargains with other interest groups for backing, it is practically unbeatable. Judging by the legislative record, one can hardly avoid concluding that here is one of the most powerful and successful pressure group in Congress. The reason, of course, lies in the political potency which the farm popula-

tion possesses in both the state and federal legislatures. Congressional districts are structured to the advantage of the rural and to the disadvantage of the urban areas. This condition, of course, will not be corrected by the state legislatures so long as they are controlled by the rural population. Furthermore, one has only to look at the areas in which major crops are grown and the votes which these areas control. One such analysis has counted some 293 Congressional votes as a "sure bet" for the Farm Bloc. Texas, Mississippi, Arkansas, California, Alabama, Georgia, and Arizona grow cotton and command a total of 99 Congressional votes. Kansas, North Dakota, Montana, Nebraska, Washington, Ohio, and Oklahoma grow wheat and command some 63 votes. Iowa, Illinois, Nebraska, Indiana, Minnesota, Missouri, and Ohio grow corn and command an additional 74 votes (deducting votes previously counted). North Carolina, Kentucky, Virginia, South Carolina, Tennessee, and Georgia grow tobacco and account for 57 more votes, bringing the grand total to 293.³¹

Concluding Statement. The nature and objective of this paper do not lend themselves to any prophetic or sensational conclusions. In fact, it should now be obvious to the reader that there are many adequate grounds upon which arguments justifying aid to agriculture are based. On the other hand it is equally obvious that there are some grounds on which farm aid is rationalized which are open to serious doubts, especially the contention that farming is basic to our level of economic activity, and the argument that our social, economic, political, and religious values originate in the family farm. But, notwithstanding limited conclusions, there are two rather searching questions which, while admittedly outside the scope of this paper, follow logically from our consideration of why the farmer receives aid. First, have the programs which have been set forth by Congress

³¹ Henry J. Abraham, "Agricultural Price Supports," *Social Science*, XXX (January, 1955), pp. 29-30.

(based on these rationalizations) solved the problems discussed herein? Second, if not, then what type of farm programs show more promising and permanent solutions? We can at least suggest answers to these questions, while recognizing that they require separate and extended treatment.

The first question has already been partially answered by the consideration given in this paper to the still existing problems of unstable prices; underemployment and overpopulation on the farms; small farm size; the lack of credit, education, and health facilities; and low farm incomes. In other words, if the past programs have been successful, then why are these problems still with us? Major emphasis in farm legislation has been on price and income supports which in turn do little for the subsistence farmers or for inadequate health, educational, or credit facilities. While these problems have been used to justify farm aid, the legislative emphasis has been on price and income supports rather than on solutions which are relevant to the problems cited. The low incomes of farmers, for example, are often used to "prove" how badly "all" farmers are in need of aid, yet the farm programs passed do very little to help these subsistence farmers. (What, for instance, would farm income distribution be like if we were to eliminate the two or so million low-income farmers from our figures?)

It would seem, therefore, that different solutions should be sought out and applied to the farm problems which still plague us. As previously indicated, the problems of the subsistence farmers are used to justify farm aid, but when it comes to legislative action these people get the short end of the stick. To be sure, some very appropriate programs³² have been offered to solve some of the more basic farm problems,

³² Fulmer, as cited in note 12, p. 183; Johnson, as cited in note 11, pp. 616-24; Charles Sayre, "Dynamics of Farm Adjustment in the South," *Journal of Farm Economics*, XXXII (November, 1950), pp. 721-34. A commendable program developed by the U.S.D.A. is to be found in "Adjustment in Southern Agriculture with Special Reference to Cotton," *Journal of Farm Economics*, XXVII (February, 1946), p. 376.

but they usually meet with deaf ears. In all probability this is because they are not politically appealing, they involve the moving of people out of certain congressional districts, they are expensive, they would be hindered by obvious administrative problems, and they lack the backing of any powerful or vocal political or social groups. Such proposals have called for increasing the economic mobility of the low-income farmers; special training programs for on and off the farm; higher educational and health standards; the development of local industry; federal and/or state land-acquisition programs enabling the marginal farmers to move out of agriculture; and programs offering financial aid for the purpose of increasing the farm size and the amount of capital on the farm. Some programs of this nature (the Resettlement Administration, the Farm Security Administration, and now the Farmers Home Administration) have been set up by Congress, but they have not been large enough even to put a dent in the low-income farm problem.